REVISIONS				
REV	ZONE	DESCRIPTION	DATE	APPROVED
0		1. SH 1, THIS REVISION REFLECTS AS–BUILT CONDITIONS FOR HULL 1953. ITEM 1 PER ENGINEERING DEVELOPMENT	9/27/06 MDP	

DWG NO. M282–085–FZ30 SH 1

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SHT 25: FIRE ZONE BOUNDARY CONT'D
SHT 26: MACHINERY EQUIPMENT LIST
SHT 27: MACHINERY ARRANGEMENT
SHT 28: MACHINERY ARRANGEMENT CONT'D

HULL APPLICABILITY

M282 HULL 1953
M283 HULL 1956
M284 HULL 1957

	0	0	0	0	0	0	0	0	REV
	28	27	26	25	24	23	22	21	SHT
0	0	0	0	0	0	0	0	0	REV
20	19	18	17	16	15	14	13	12	11	SHT
0	0	0	0	0	0	0	0	0	REV
10	9	8	7	6	5	4	3	2	1	SHT

REVISION STATUS

DRL NUMBERS

AS BUILT

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VT Halter Marine, Inc.
Vision Technologies Systems

DRAWN BY MDP 9/27/06	ABS APPV
CHECKED BY	USCG APPV
APPROVED BY	OWNER APPV
HULL NO APPLICABILITY	CAGE CODE 3B213
SIZE D	
ESTIMATE NO 00–104	SCALE NONE

VESSEL
FRV40 CLASS 63m FISHERIES RESEARCH VESSEL

TITLE
BOOKLET OF GENERAL DRAWINGS

JOB NO.	ITEM	DELIVERABLE	SHEET	REV
M282	085	FZ30	001	00

FILE
SHEET 1 OF 28

PLOT: 1=1

COMPARTMENT DIRECTORY (BY TYPE)

TANKAGE

FOREPEAK BALLAST	4–1–0
FUEL OIL TANK #1FS	4–7–1
FUEL OIL TANK #1FP	4–7–2
FUEL OIL TANK #1AS	4–13–1
FUEL OIL TANK #1AP	4–13–2
BOW THRUSTER SEACHEST	4–13–0
FUEL OIL TANK #2C	4–19–0
FUEL OIL TANK #2S	4–19–1
FUEL OIL TANK #2P	4–19–2
WASTE WATER	4–29–0
DB BALLAST #3C	4–34–0
DB BALLAST #3S	4–29–1
DB BALLAST #3P	4–29–2
DB BALLAST #4C	4–39–01
DB FUEL OIL #4S	4–39–1
DB FUEL OIL #4P	4–39–2
WASTE OIL	4–47–1
OILY WASTE	4–47–2
SEACHEST	4–61–1
SEACHEST	4–61–2
FRESH WATER	3–19–1
FRESH WATER	3–19–2
FUEL OIL DAY TANK	3–39–1
FUEL OIL DAY TANK	3–39–2
LUBE OIL TANK	3–47–01
FUEL OIL TANK #5S	3–72–1
FUEL OIL TANK #5P	3–72–2
ROLL STABILIZATION TANK	02–22–0
EMERGENCY GENERATOR DAY TANK	
INCINERATOR TANK	

VOIDS

VOID	4–49–1
BOSSING	4–78–0
VOID	3–78–1
VOID	3–78–2

ACCESSES

CENTERBOARD TRUNK	4–39–0
ACCESS	4–49–0
ACCESS	3–31–0
ACCESS	3–47–0
ACCESS	3–68–0
ESCAPE TRUNK	3–69–2
ACCESS	2–16–2
ACCESS	2–19–0
PASSAGE	2–24–0
PASSAGE	2–29–0
PASSAGE	2–39–0
PASSAGE	1–7–01
PASSAGE	1–36–0
ACCESS	1–51–2
PASSAGE	01–14–0
PASSAGE	01–19–0
PASSAGE	02–38–0
ACCESS	02–51–2

SERVICE SPACES

LAUNDRY	2–11–0
GALLEY	1–19–1
TRASH ROOM	1–65–2

CONTROL SPACES

ENGINEER'S OPERATING STATION	2–63–0
BRIDGE	03–34–0

MACHINERY SPACES

TRANSDUCER ROOM	4–23–0
MAIN MACHINERY ROOM	4–49–0
M.M.R. EXHAUST	4–49–0
M.M.R. SUPPLY	4–49–0
BOW THRUSTER MACHINERY ROOM	3–13–0
DOMESTIC EQUIPMENT ROOM	3–29–0
AUXILARY MACHINERY ROOM	3–39–01
OCEANOGRAPHIC WINCH ROOM	3–68–0
TRAWL WINCH ROOM	3–82–0
FAN ROOM	1–16–1
REF MACHINERY	01–10–2
FAN ROOM	01–37–0
CO2 ROOM	01–44–1
EMERGENCY GEN. ROOM	01–54–0

ACCOMMODATIONS

MESS ROOM	1–19–0
TOILET	1–43–2
W/C	1–63–2
READY ROOM	1–70–2
EXERCISE ROOM	2–19–0
SH & T	2–19–1
STATEROOM	2–23–1
STATEROOM	2–23–2
SH & T	2–26–1
SH & T	2–26–2
SH & T	2–29–1
SH & T	2–29–2
STATEROOM	2–29–4
SH & T	2–31–1
STATEROOM	2–31–3
STATEROOM	2–31–5
STATEROOM	2–34–2
SH & T	2–36–2
SH & T	2–39–2
SH & T	2–39–3
STATEROOM	2–39–4
STATEROOM	2–39–5
STATEROOM	2–44–1
STATEROOM	2–44–2
SH & T	2–46–1
SH & T	2–46–2
LOUNGE	01–19–1
STATEROOM	01–19–2
SH & T	01–21–2
SH & T	01–24–2
STATEROOM	01–24–4
STATEROOM	01–28–2
CONFERENCE ROOM	01–29–1
SH & T	01–30–2
SH & T	01–33–2
STATEROOM	01–33–4
STATEROOM	02–29–0
SR. CHIEF SCIENTIST	02–29–1
SR. CHIEF ENGINEER	02–29–2
SH & T	02–35–1
SH & T	02–35–2
SH & T	02–35–3
STATEROOM	02–38–2
SR. COMMANDING OFFICER	02–39–1
SH & T	02–43–1
SHT & T	02–44–4
SH & T	02–44–6
STATEROOM	02–45–0
SH & T	02–45–1
STATEROOM	02–46–2
TOILET	02–50–0
SH & T	02–50–1
HOSPITAL	02–50–3

OFFICE/LAB/WORKSHOPS

DRY LAB	1–31–1
AUTOSALINATOR ROOM	1–31–3
HYDROGRAPHIC LAB	1–38–1
ACOUSTIC/COMPUTER LAB	1–38–2
CHEMISTRY LAB	1–47–0
CONTROLLED ENVIRONMENT ROOM	1–56–2
FISH/WET LAB	1–58–0
ET SHOP	01–47–2
OFFICE SUITE	01–37–2

STORES & LOCKERS

LOCKED STORES	3–29–1
GENERAL STORES	3–32–1
CHAIN LOCKER	2–5–0
SCIENTIFIC STORES	2–7–0
STEWARD STORES	2–7–1
CG LOCKER	2–21–2
LINEN LOCKER	2–39–1
SCIENTIFIC STORES	1–4–0
FREEZER ROOM	1–7–0
DRY STORES	1–7–1
CHILL ROOM	1–11–2
CG LOCKER	1–47–1
SCIENTIFIC FREEZER	1–58–1
DK LOCKER	1–78–2
HAZMTL/PAINT STORAGE	1–78–4
DIVE LOCKER	01–10–1
DC LOCKER	01–10–1
DECK LOCKER	01–12–1
CG LOCKER	01–27–1
LINEN LOCKER	01–29–1
LINEN LOCKER	02–47–1
CG LOCKER	02–48–0
DC LOCKER	02–53–2

CHARACTERISTICS

LENGTH OVERALL	=	63.57 m
LENGTH BETWEEN PERPENDICULARS	=	58.00 m
BEAM, EXTREME	=	15.00 m
BEAM, ON DWL AT MIDSHIPS	=	15.00 m
SLOPE OF KEEL DRAG	=	1: 37.12

BASELINE LOCATED .55 m BELOW MLD KEEL AT MIDSHIPS
COMPLEMENT 39 (TOTAL)

LIST OF BOATS, LIFERAFTS & DAVITS

(2) LIFERAFT DAVITS–SCHAT–HARDING
(6) 25 DKF LIFERAFTS–SCHAT–HARDING
(1) RESCUE BOAT–SCHAT–HARDING
(1) RESCUE BOAT DAVIT W/ WINCH–SCHAT–HARDING
(1) WORKBOAT–WELIN LAMBIE
(1) WORKBOAT DAVIT–WELIN LAMBIE

DECK MACHINERY

(1) ANCHOR WINDLASS
(1) GILSON WINCH
(1) NET SONDE WINCH
(1) NET REEL
(1) SIDE 'A' FRAME
(1) STERN GANTRY
(2) AFT DECK CRANES
(1) FWD STORES CRANE
(2) HYDROGRAPHIC WINCHES

WEIGHT HANDLING DEVICES MAX. LIFTING CAPACITIES

AFT DECK CRANE=8,100 LBS.
FWD STORES CRANE=1,000 LBS.
ANCHOR WINDLASS=39,100 LBS. LINE PULL @ 30 F.P.M.
GILSON WINCH=42,990 LBS.
NET SONDE WINCH=7,937 LBS.
NET REEL=43,872 LBS.
HYDROGRAPHIC WINCHES=11,023 LBS.
TRAWL WINCH (P/S)=77,603 LBS.
TRACTION WINCH=29,983 LBS.
STORAGE WINCH=7,496 LBS.
SIDE 'A' FRAME=14,590 LBS.
STERN GANTRY=80,502 LBS.

PROPELLER CHARACTERISTICS

NUMBER OF BLADES: 5
DIAMETER: 14.1 FT (4.297 m)
EXPANDED AREA RATIO: 0.637
RIGHT HAND ROTATION
THICKNESS SECTION: NACA 66 (DTMB MODIFIED)
CAMBER SECTION: 3–D FROM a=0.8 MEANLINE
MATERIAL: NICKEL–ALUMINUM–BRONZE (ABS TYPE 4)

STEERING UNIT DESCRIPTION:

WORKING TORQUE: 1015 kNm
WORKING PRESSURE: 80 bar
MAX. RUDDER STOCK DIAMETER: 450 mm
TAPER BORE FOR LESS DIAMETER AVAILABLE IN STEPS OF 10 mm.
MAX. RUDDER ANGLE, MECHANICAL LIMIT: 2x46,5 DEGREES
WORKING RUDDER ANGLE, ELECTRICAL LIMIT: 2x35,0 DEGREES
STEERING TIME AT 35–0–35 DEGREES RUDDER ANGLE:
ONE PUMP WORKING: 28 SECONDS
TWO PUMPS WORKING: 14 SECONDS
HYDRAULIC OIL–ISO. 68.

GENERATING PLANT DESCRIPTION:

THREE PHASE BRUSHLESS SYNCHRONOUS
WINDINGS CONNECTION: STAR (Y). 6 LEADS BROUGHT OUT
NUMBER OF POLES: 4
POWER FACTOR: 0.8 LAGGING
RATED VOLTAGE: 600 V
RATED FREQUENCY: 60 Hz
RATED SPEED: 1800 r/min
RUNAWAY SPEED: 2160 r/min
REFERENCE STANDARDS: NEMA/IEEE 45/ ABS CLASSIFICATION
TIME RATING/SF: CONTINUOUS RUNNING DUTY

POWER PLANT CHARACTERISTICS:

(2) DIESEL GENSETS (1360 KW)
(2) DIESEL GENSETS (910 KW)
ELECTRIC PROPULSION SYSTEM

GROSS TONNAGE:

2218

ABS EQUIPMENT NUMERAL:

660

DISPLACEMENTS:

FULL LOAD=2543.04 METRIC TONNES
LIGHT SHIP=1757.59 METRIC TONNES

NAVIGATIONAL DRAFT (FULL LOAD CONDITION):

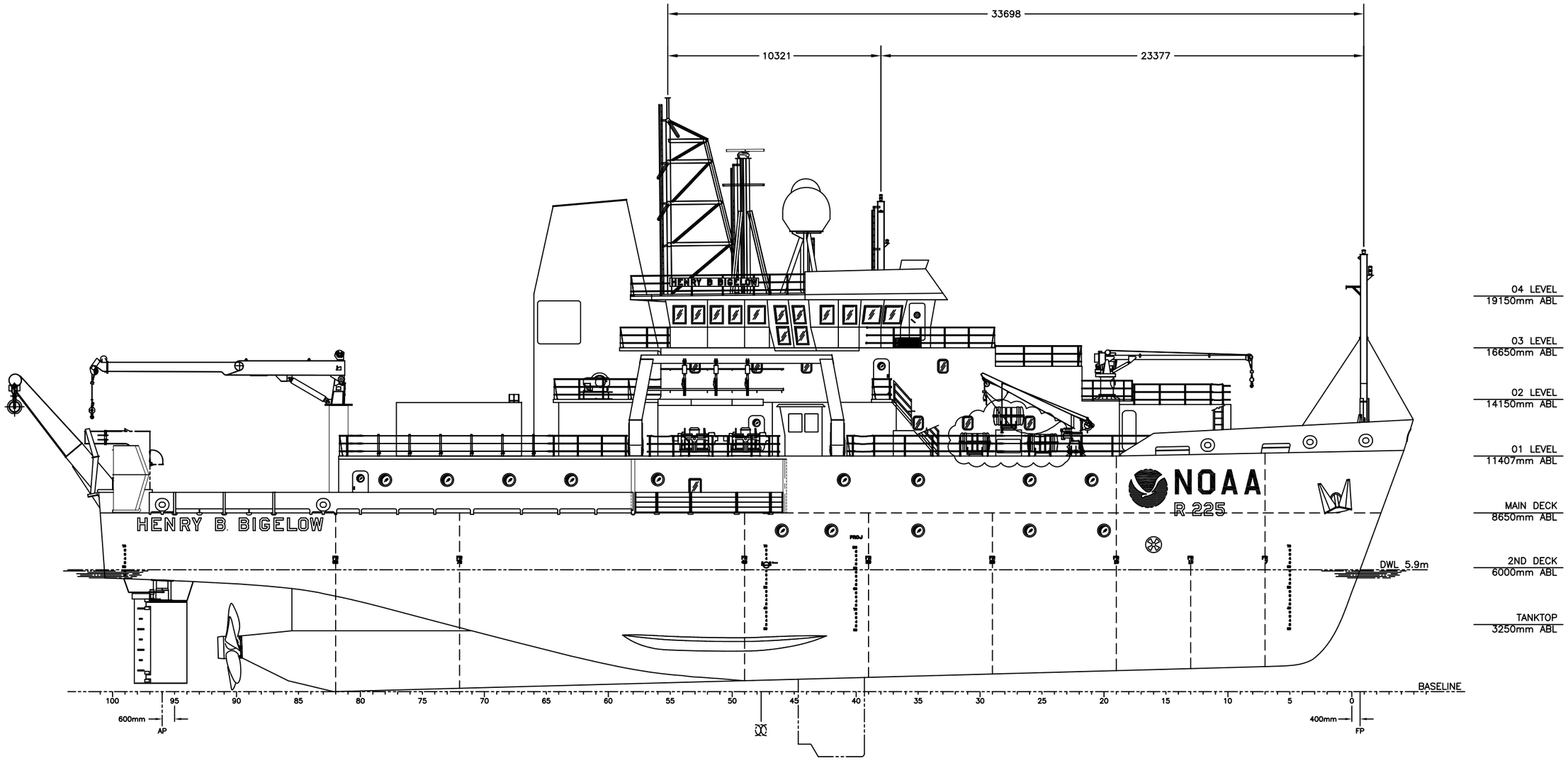
CENTERBOARD RETRACTED= 6.11m @ F.P. & 6.09m @ A.P.

CENTERBOARD EXTENDED= 9.91m @ F.P. & 9.89m @ A.P.

DWG NO. M282–085–FZ30 SH 2

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	002	00
ESTIMATE NO 00–104	SCALE 1:1		FILE			SHEET 2 OF	

PLOT: 1:1



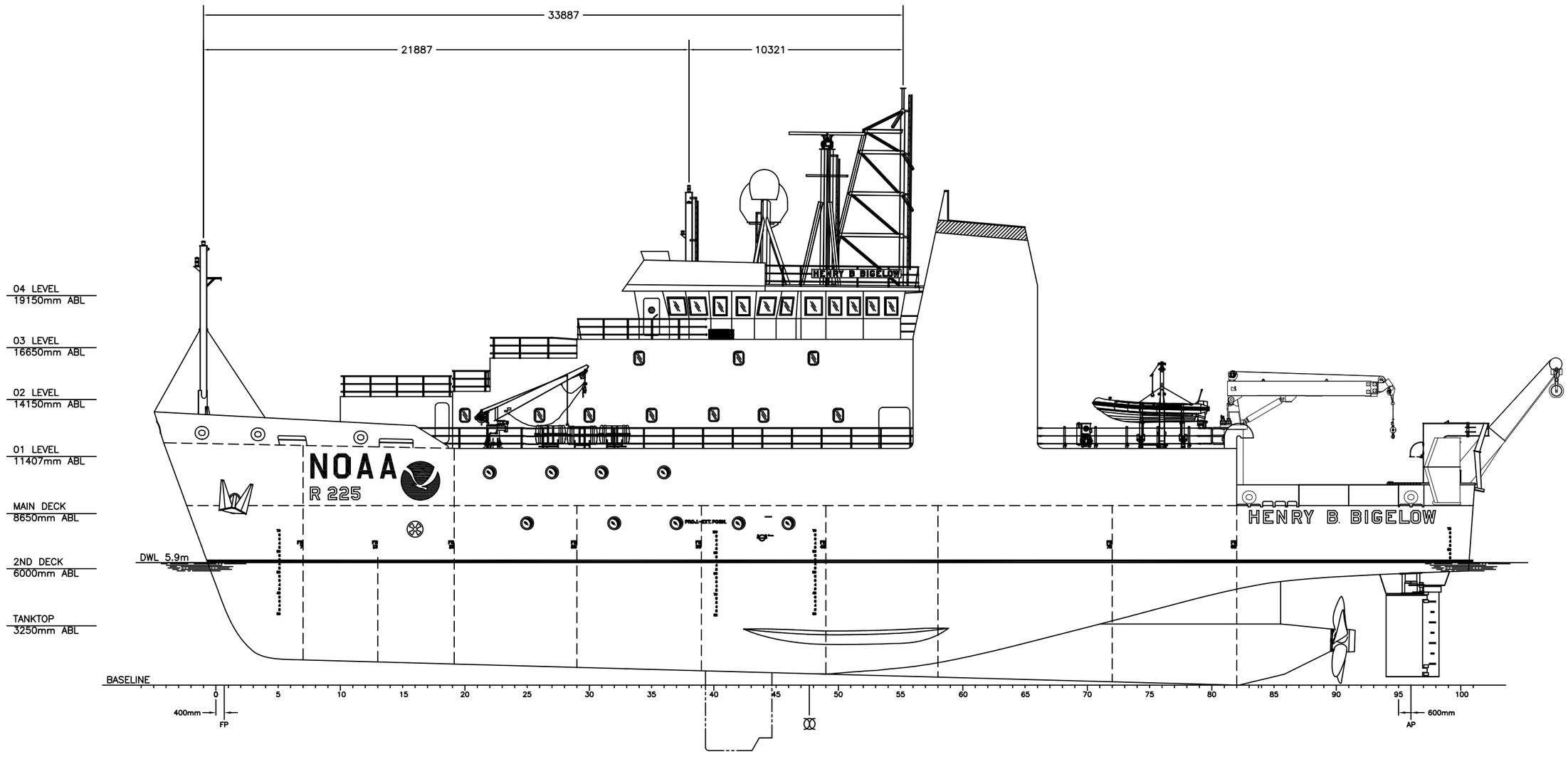
OUTBOARD PROFILE

STARBOARD SHOWN

DWG NO. M282-085-FZ30 SH 3

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	003	00
ESTIMATE NO	SCALE		FILE			SHEET 3 OF	
00-104	1:100						

PLOT: 1=100



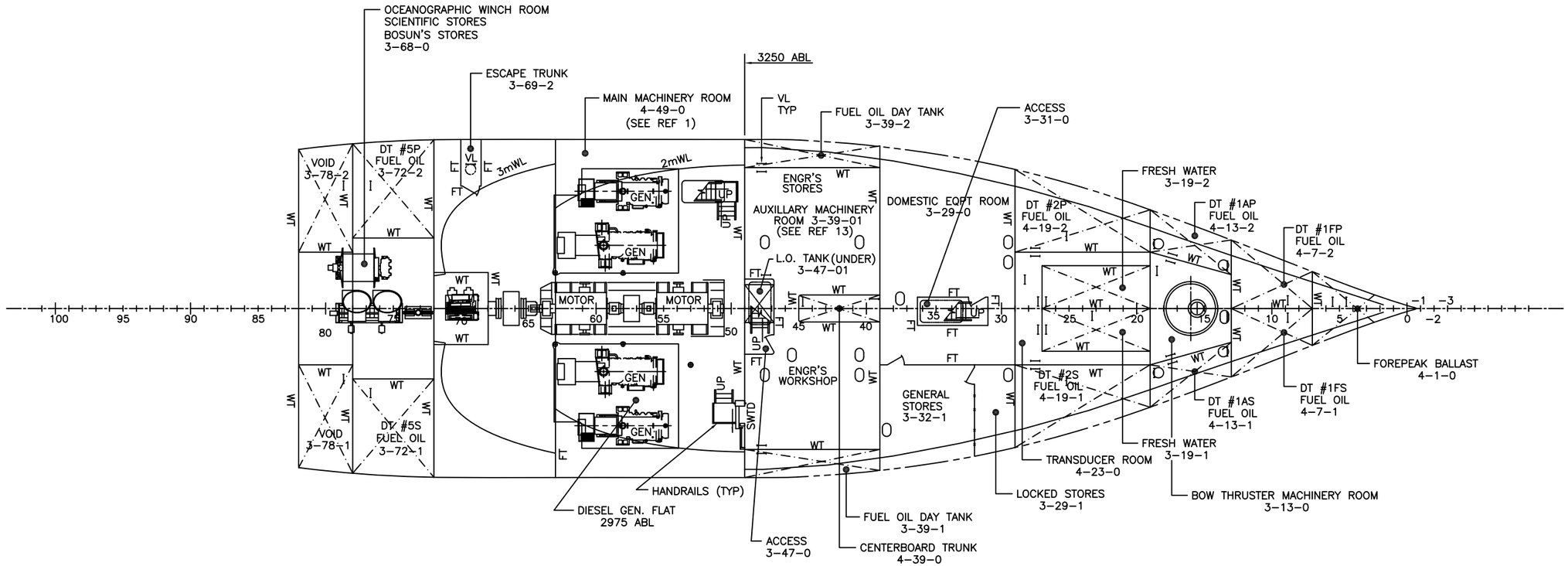
OUTBOARD PROFILE

PORT SHOWN

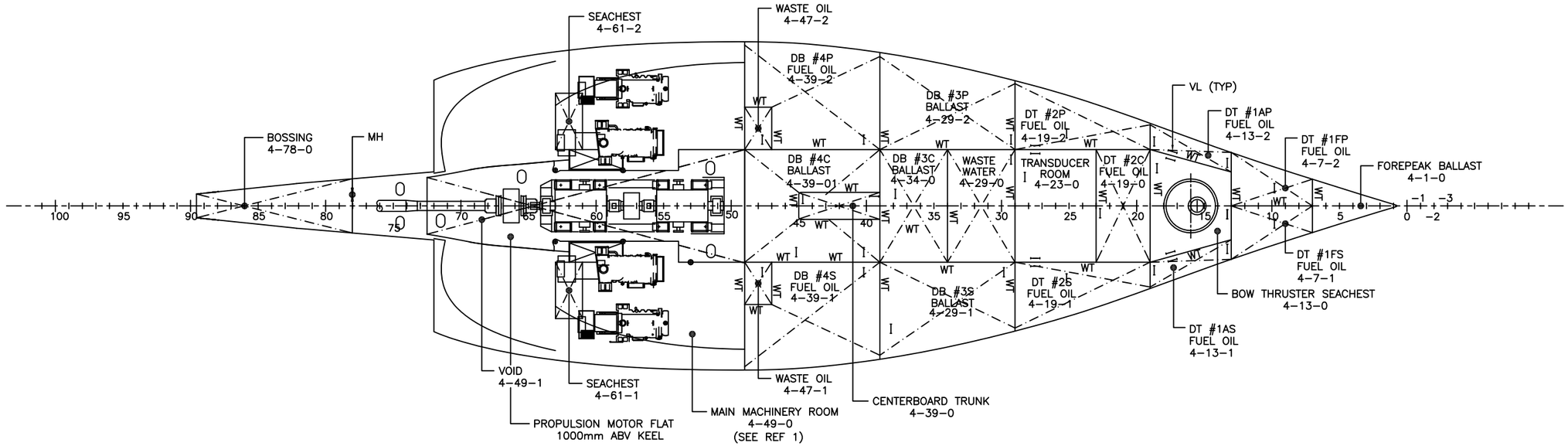
DWG NO. M282-085-FZ30 SH 4

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	004	00
ESTIMATE NO	SCALE		FILE			SHEET 4 OF	
00-104	1:100						

PLOT: 1=100



TANKTOP
HEIGHT AS NOTED

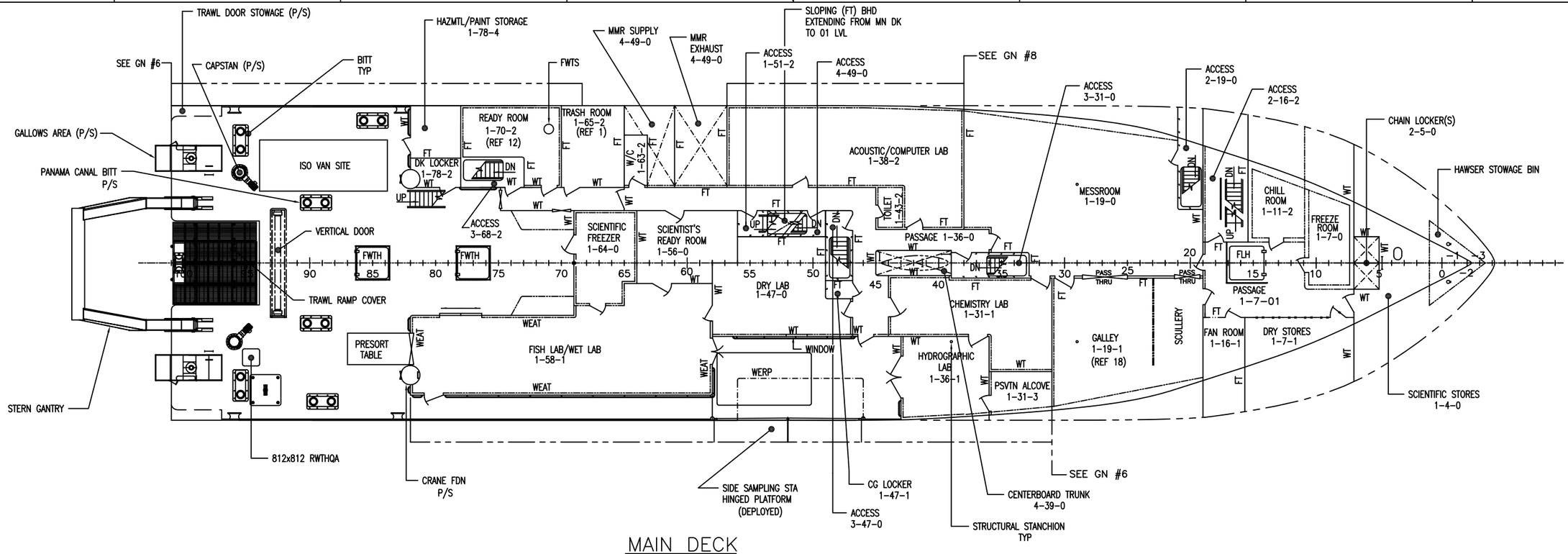


INNERBOTTOM

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	005	00
ESTIMATE NO	SCALE		FILE			SHEET 5 OF	
00-104	1:100						

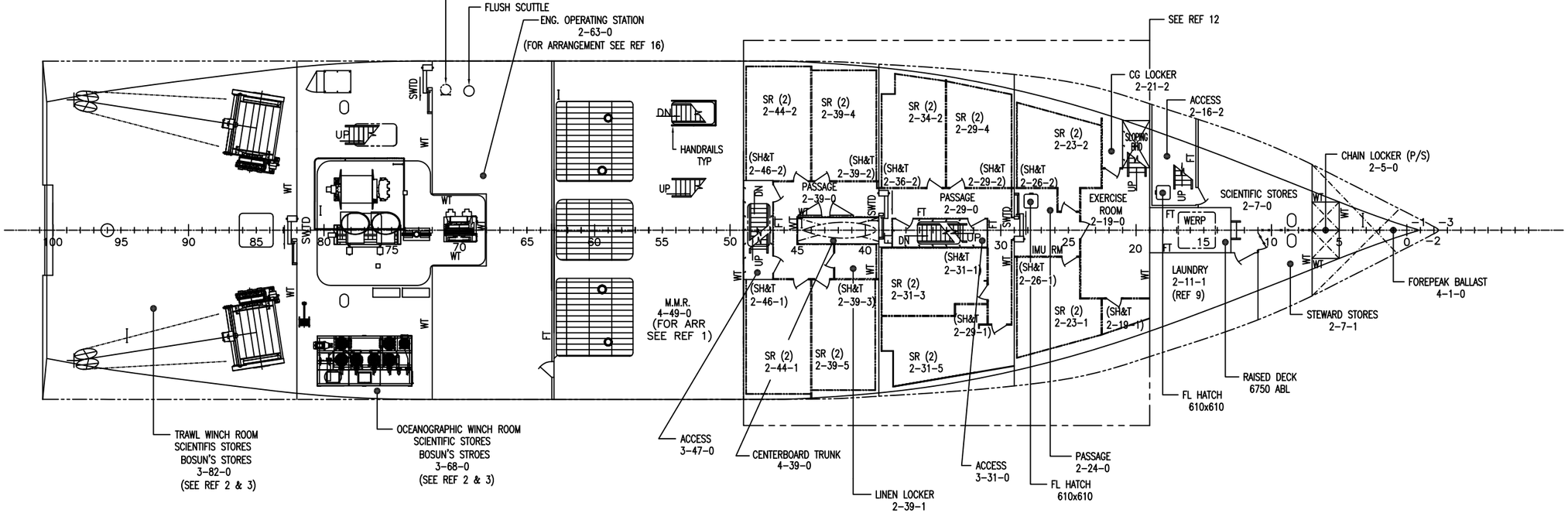
PLOT: 1=100

DWG NO. M282-085-FZ30 SH 5



MAIN DECK

8650mm ABL
M282 & M284 ONLY



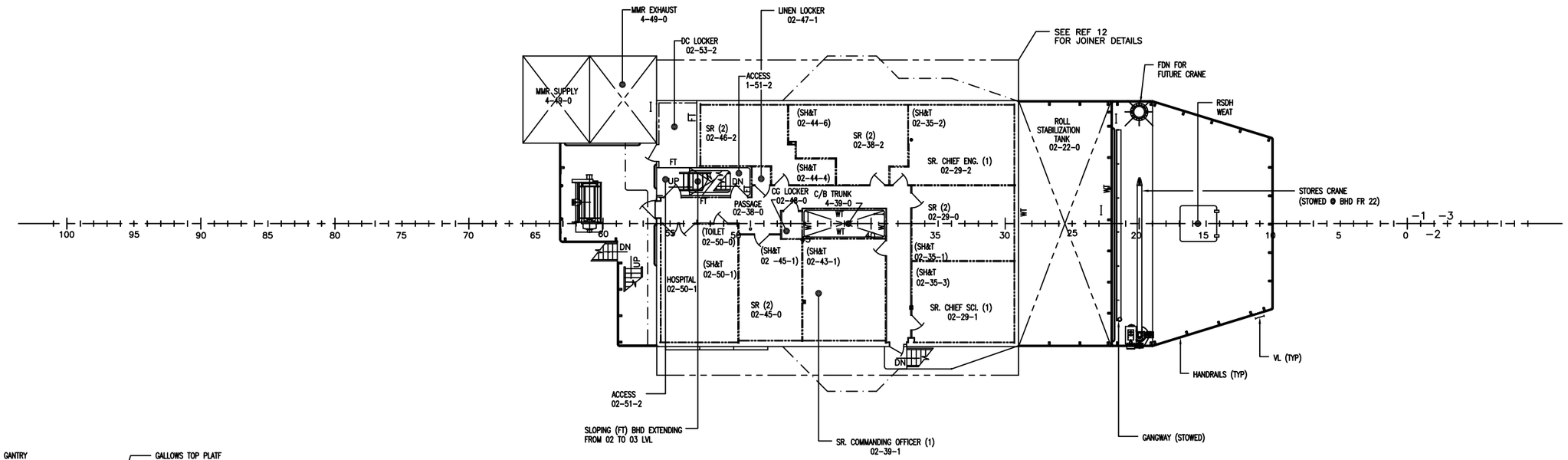
2ND DECK

6000mm ABL

DWG NO. M282-085-FZ30 SH 6

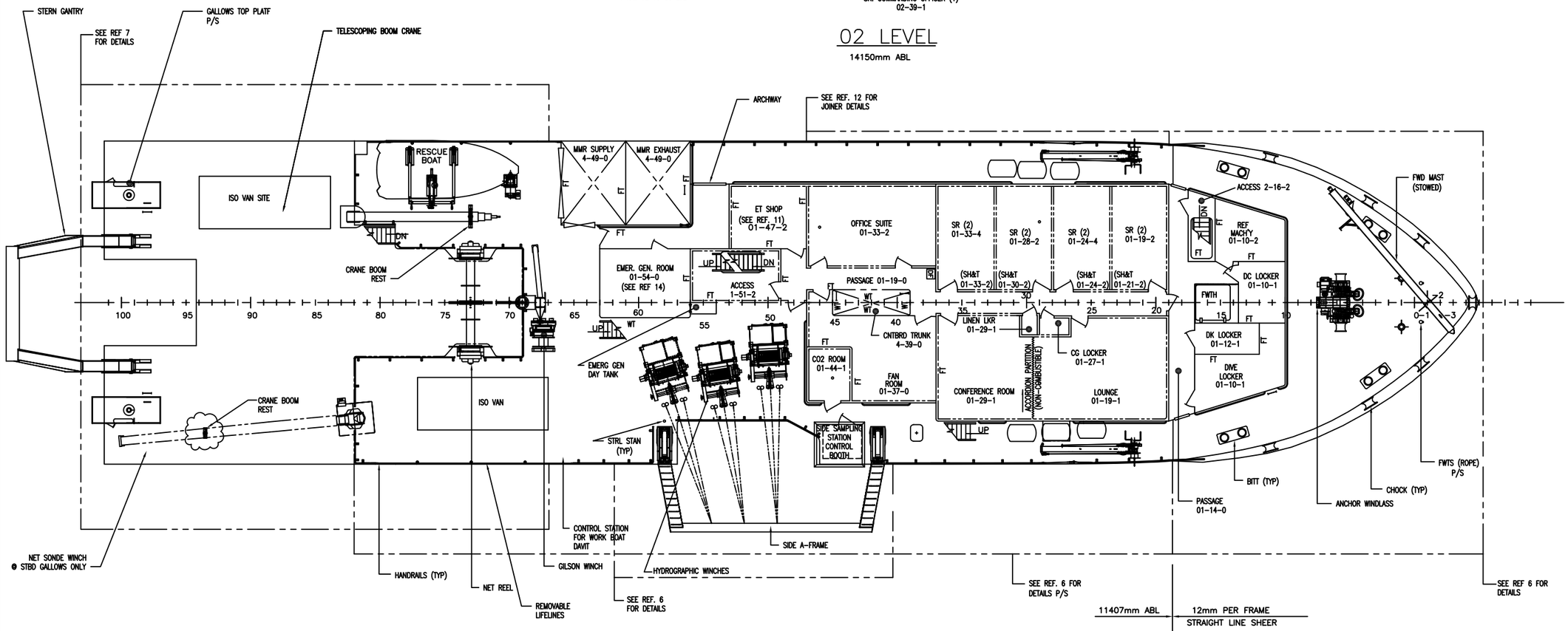
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	006	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 6 OF	

PLOT: 1=100



02 LEVEL

14150mm ABL



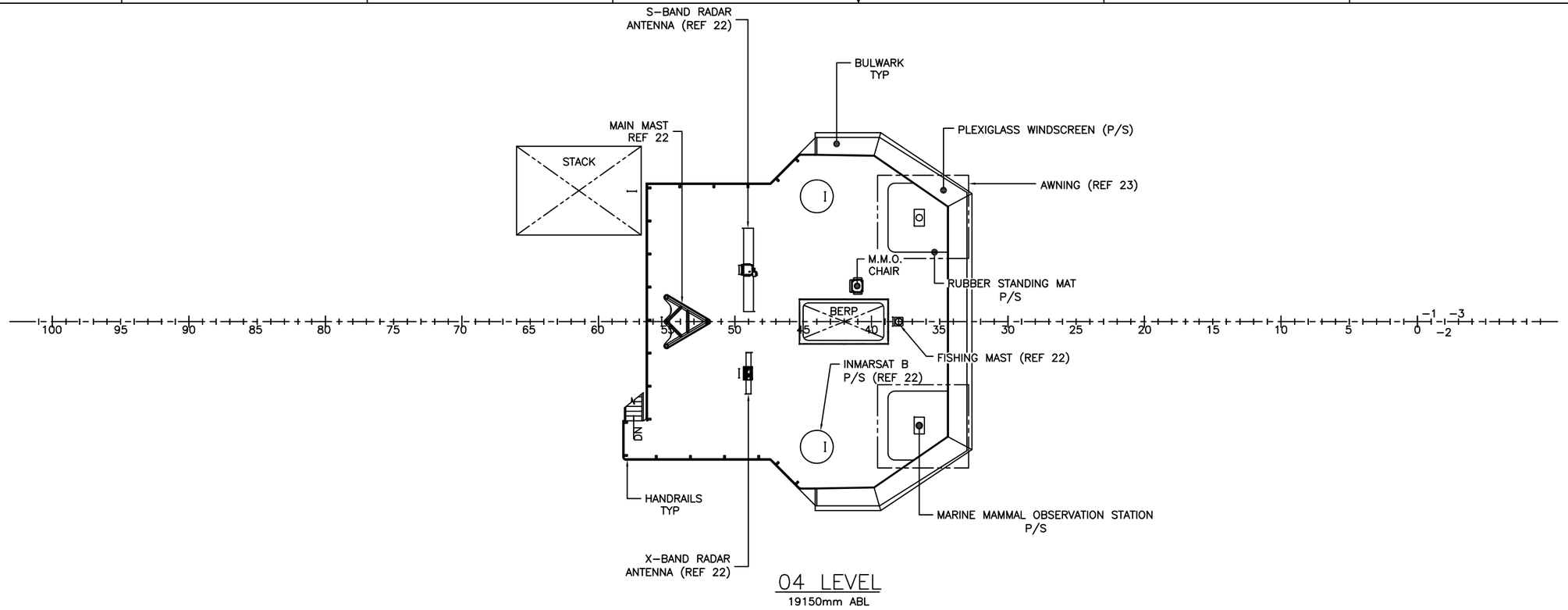
01 LEVEL

ABL HEIGHT AS NOTED

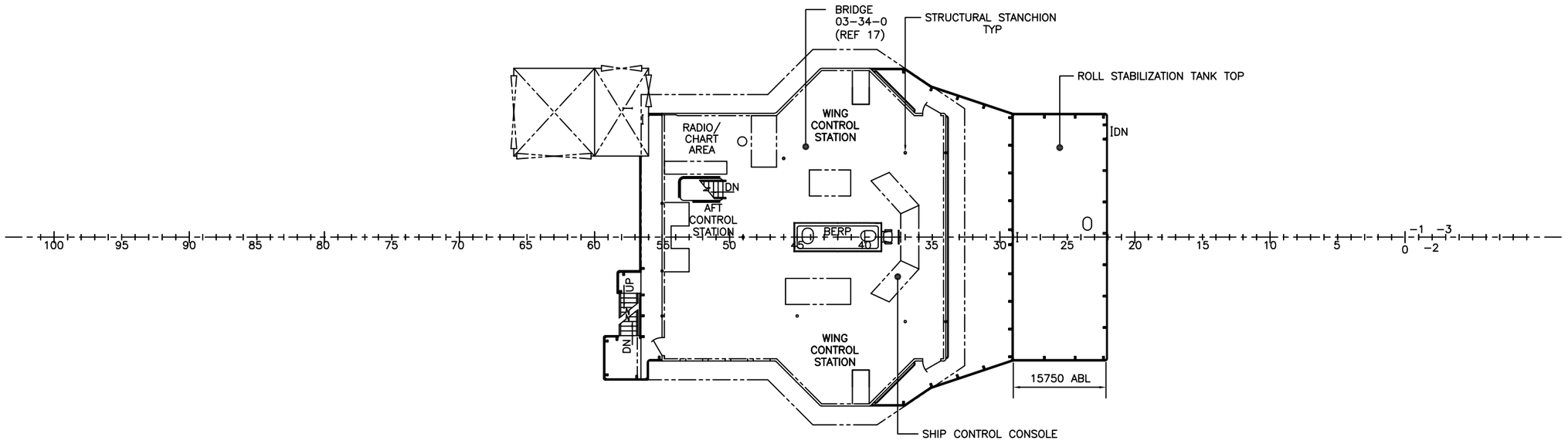
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	007	00
ESTIMATE NO	SCALE		FILE			SHEET 7 OF	
00-104	1:100						

DWG NO. M282-085-FZ30 SH7

PLOT: 1=100


S–BAND RADAR ANTENNA (REF 22)
BULWARK TYP
MAIN MAST REF 22
PLEXIGLASS WINDSCREEN (P/S)
STACK
AWNING (REF 23)
M.M.O. CHAIR
RUBBER STANDING MAT P/S
BERP
FISHING MAST (REF 22)
INMARSAT B P/S (REF 22)
HANDRAILS TYP
MARINE MAMMAL OBSERVATION STATION P/S
X–BAND RADAR ANTENNA (REF 22)
100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0
−1 −2 −3

04 LEVEL
19150mm ABL

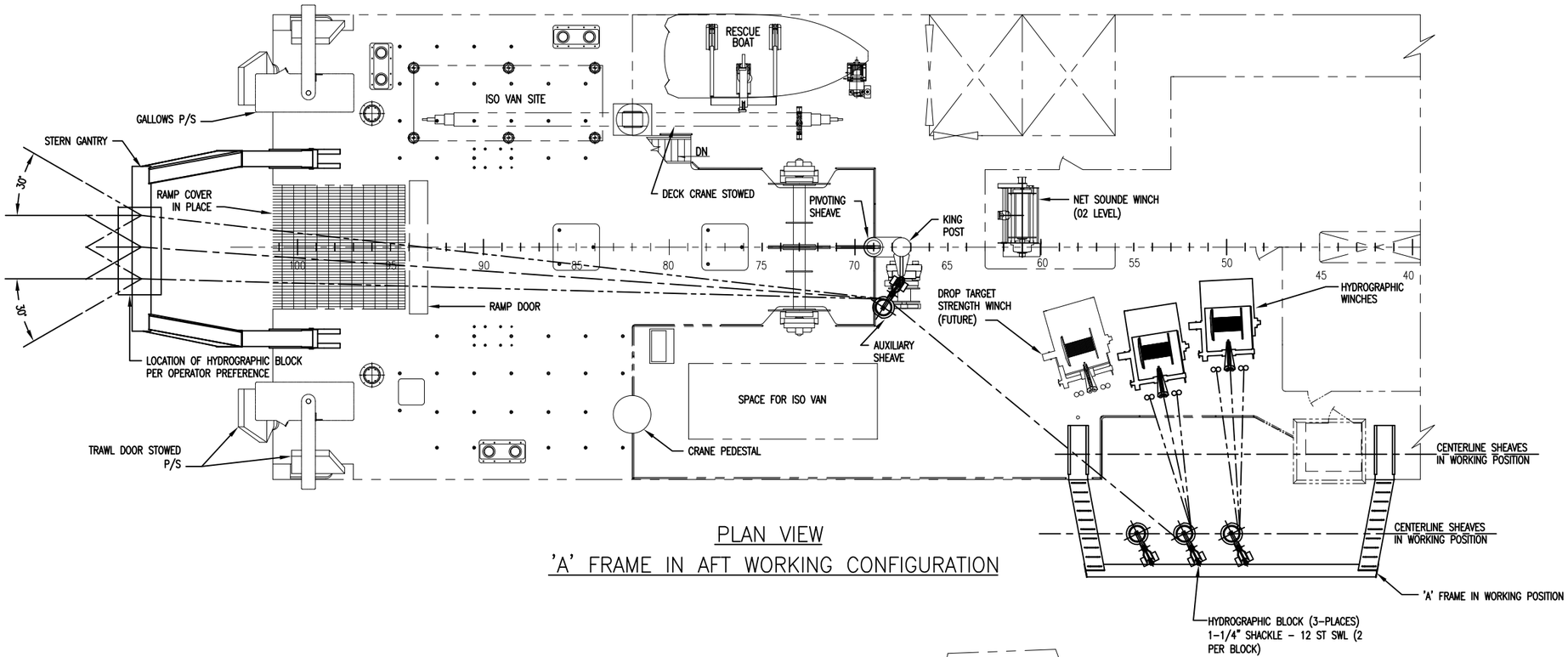


03 LEVEL
16650mm ABL UNO

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	008	00
ESTIMATE NO	SCALE		FILE			SHEET 8 OF	
00–104	1:100						

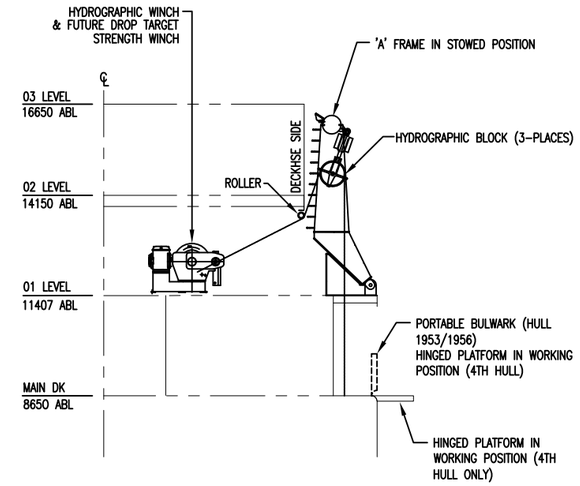
PLOT: 1=100

DWG NO. M282–085–FZ30 SH 8



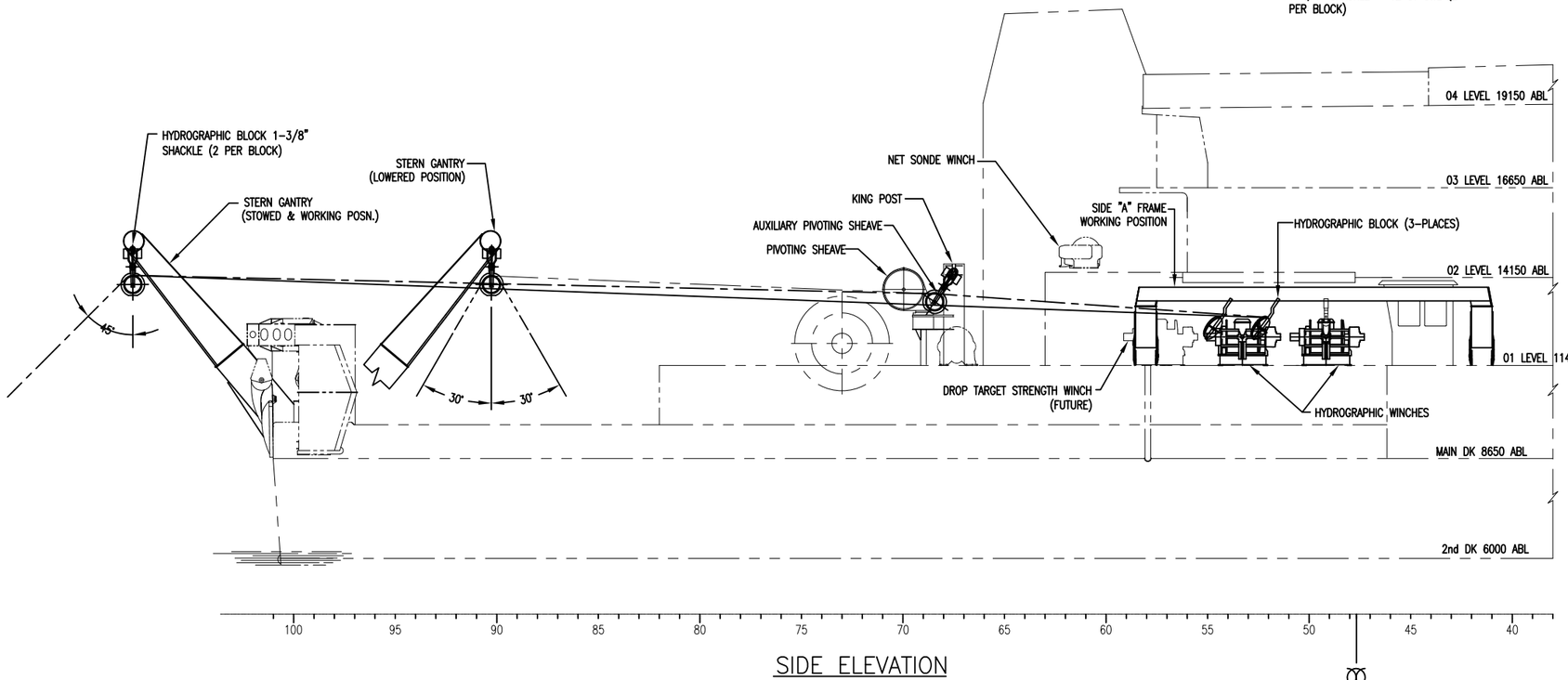
PLAN VIEW

'A' FRAME IN AFT WORKING CONFIGURATION


HYDROGRAPHIC WINCH & FUTURE DROP TARGET STRENGTH WINCH
'A' FRAME IN STOWED POSITION
HYDROGRAPHIC BLOCK (3–PLACES)
03 LEVEL 16650 ABL
02 LEVEL 14150 ABL
ROLLER
DECKHSE SIDE
01 LEVEL 11407 ABL
PORTABLE BULWARK (HULL 1953/1956) HINGED PLATFORM IN WORKING POSITION (4TH HULL)
MAIN DK 8650 ABL
HINGED PLATFORM IN WORKING POSITION (4TH HULL ONLY)

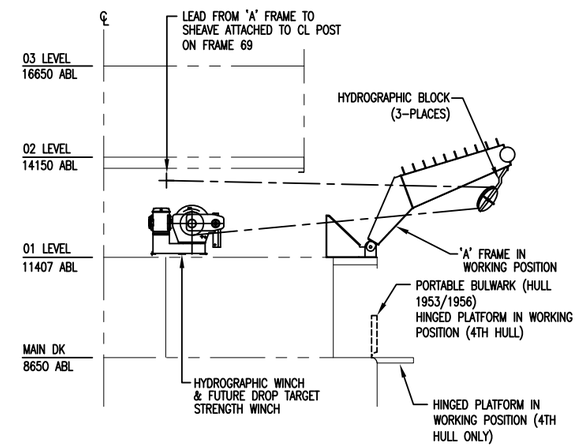
'A' FRAME AT POINT OF LIFT

FR 58 LOOKING FWD



SIDE ELEVATION

'A' FRAME IN WORKING CONFIGURATION


LEAD FROM 'A' FRAME TO SHEAVE ATTACHED TO CL POST ON FRAME 69
HYDROGRAPHIC BLOCK (3–PLACES)
03 LEVEL 16650 ABL
02 LEVEL 14150 ABL
01 LEVEL 11407 ABL
'A' FRAME IN WORKING POSITION
PORTABLE BULWARK (HULL 1953/1956) HINGED PLATFORM IN WORKING POSITION (4TH HULL)
MAIN DK 8650 ABL
HYDROGRAPHIC WINCH & FUTURE DROP TARGET STRENGTH WINCH
HINGED PLATFORM IN WORKING POSITION (4TH HULL ONLY)

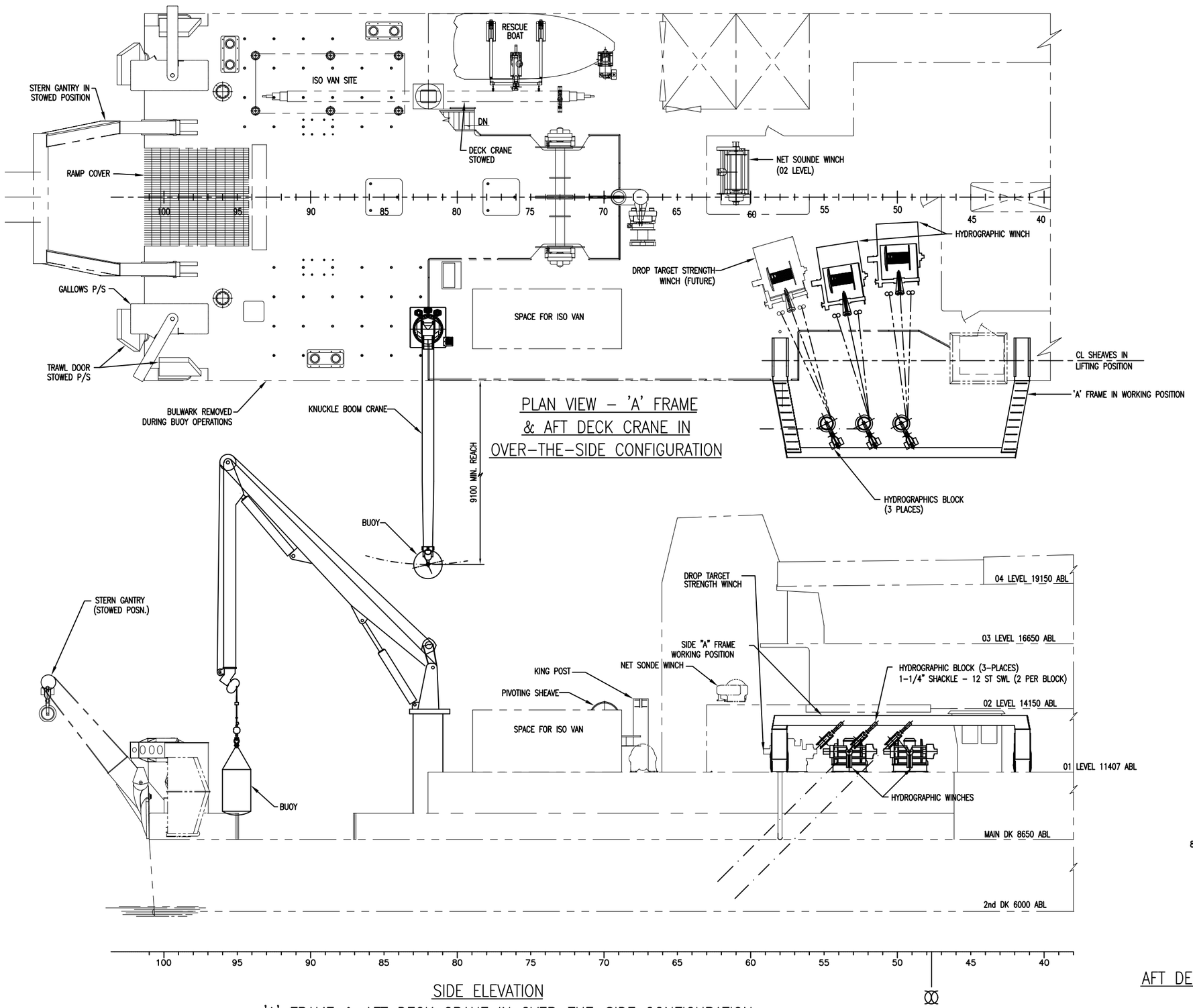
'A' FRAME IN AFT WORKING CONFIGURATION

FR 58 LOOKING FWD

DWG NO. M282–085–FZ30 SH 9

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	009	00
ESTIMATE NO	SCALE		FILE			SHEET 9 OF	
00–104	1:80						

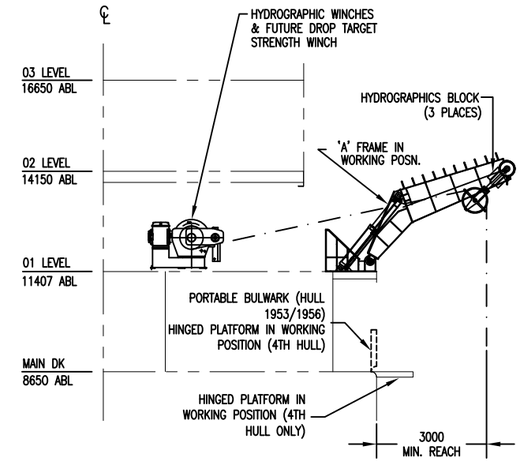
PLOT: 1=80



PLAN VIEW – 'A' FRAME & AFT DECK CRANE IN OVER–THE–SIDE CONFIGURATION

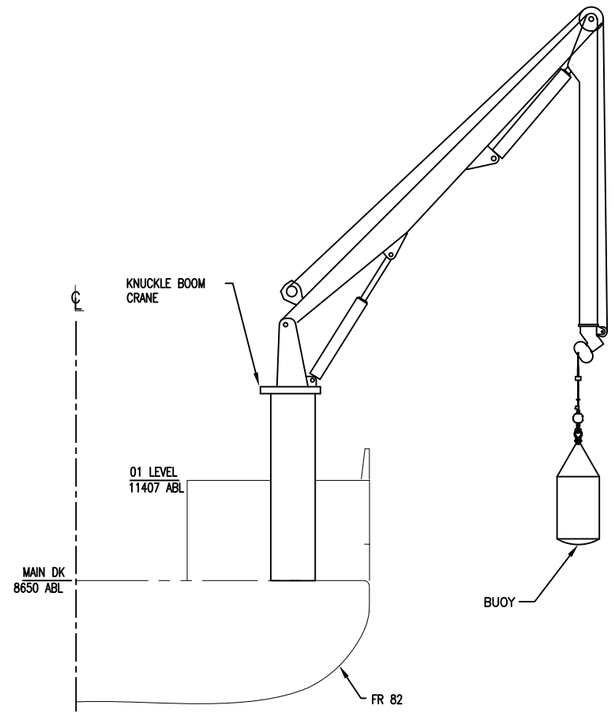
SIDE ELEVATION

'A' FRAME & AFT DECK CRANE IN OVER–THE–SIDE CONFIGURATION


HYDROGRAPHIC WINCHES & FUTURE DROP TARGET STRENGTH WINCH
03 LEVEL 16650 ABL
HYDROGRAPHICS BLOCK (3 PLACES)
'A' FRAME IN WORKING POSN.
02 LEVEL 14150 ABL
01 LEVEL 11407 ABL
PORTABLE BULWARK (HULL 1953/1956)
HINGED PLATFORM IN WORKING POSITION (4TH HULL)
MAIN DK 8650 ABL
HINGED PLATFORM IN WORKING POSITION (4TH HULL ONLY)
3000 MIN. REACH

'A' FRAME IN OVER–THE–SIDE WORKING CONFIGURATION

FR 58 LOOKING FWD



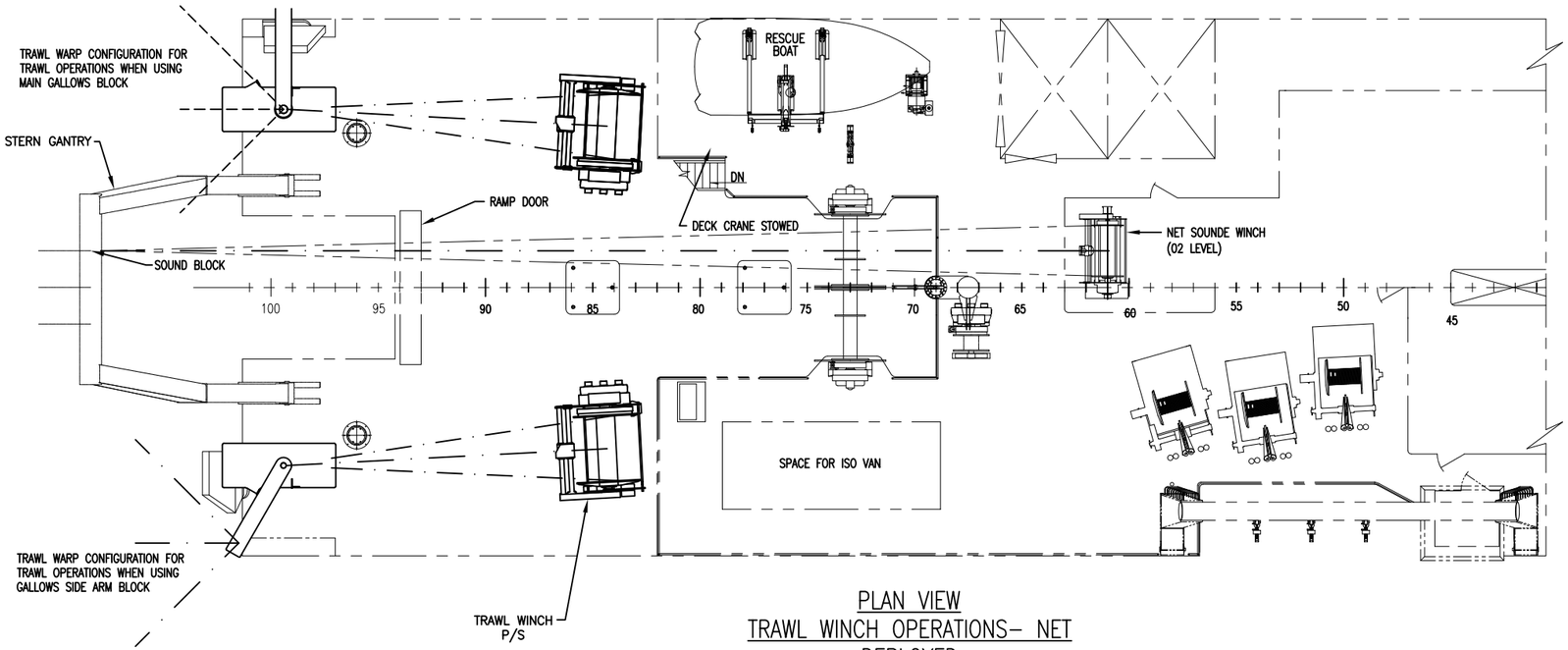
LOOKING FWD

AFT DECK CRANE IN OVER–THE–SIDE OPERATIONS

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	010	00
ESTIMATE NO	SCALE		FILE			SHEET 10 OF	
00–104	1:80						

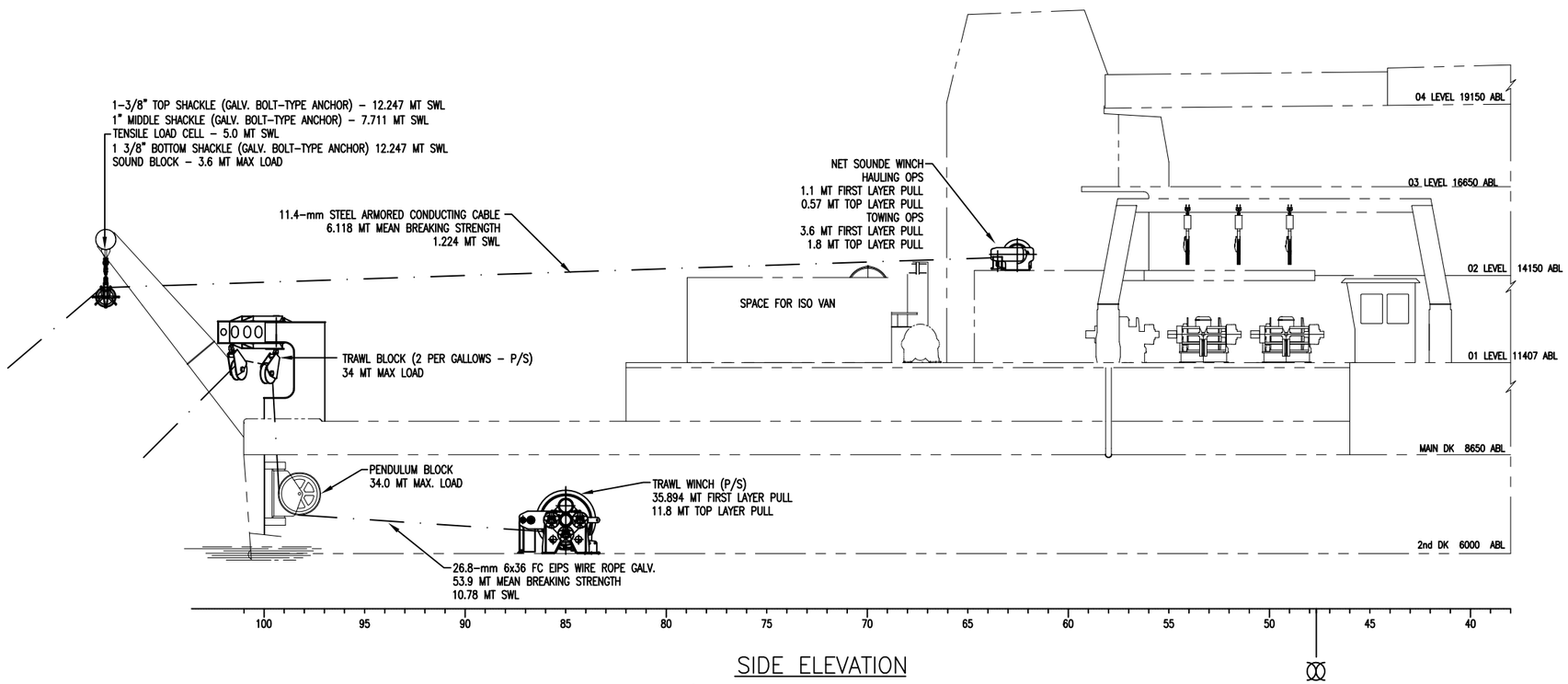
PLOT: 1=80

DWG NO. M282–085–FZ30 SH 10



PLAN VIEW
TRAWL WINCH OPERATIONS– NET DEPLOYED

NET DEPLOYED USING PRIMARY GALLOWS BLOCK SHOWN PORT SIDE
NET DEPLOYED USING GALLOWS OUTBOARD SWING ARM SHOWN STBD SIDE
(SELECTED FITTINGS & EQUIPMENT ON AFT MN DK REMOVED FOR CLARITY)

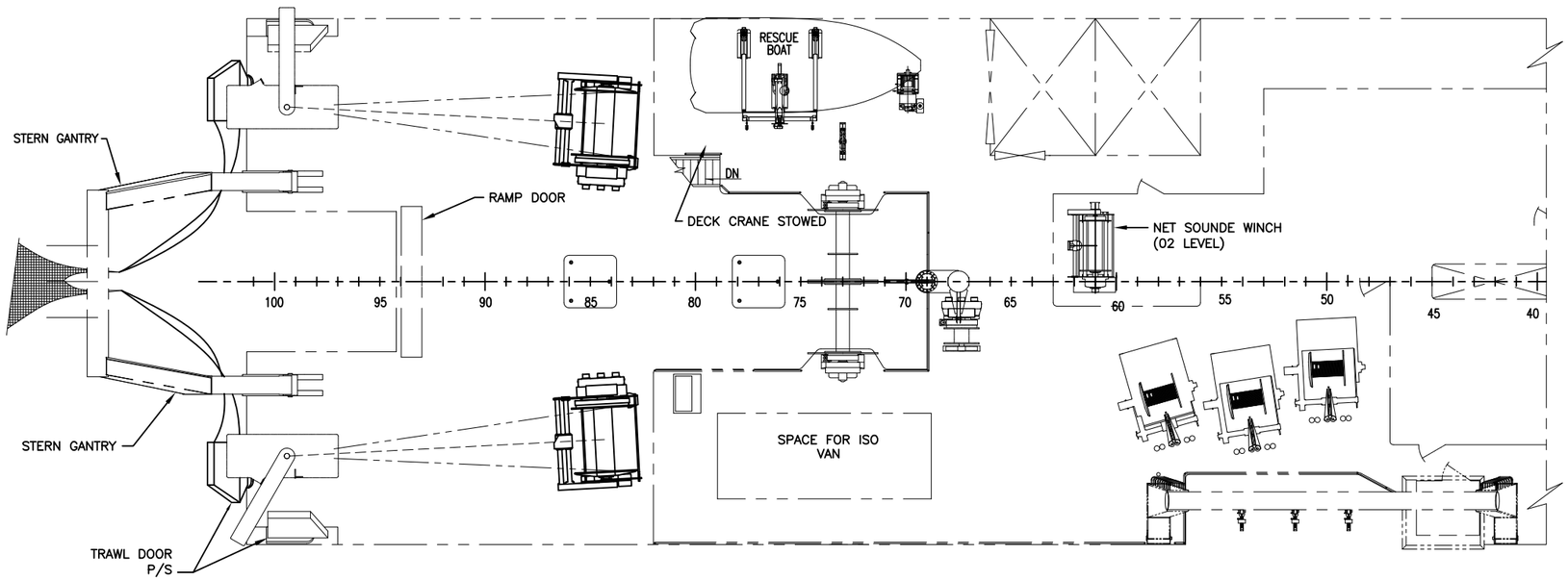


SIDE ELEVATION
TRAWL WINCH OPERATIONS – NET DEPLOYED

DWG NO. M282–085–FZ30 SH 11

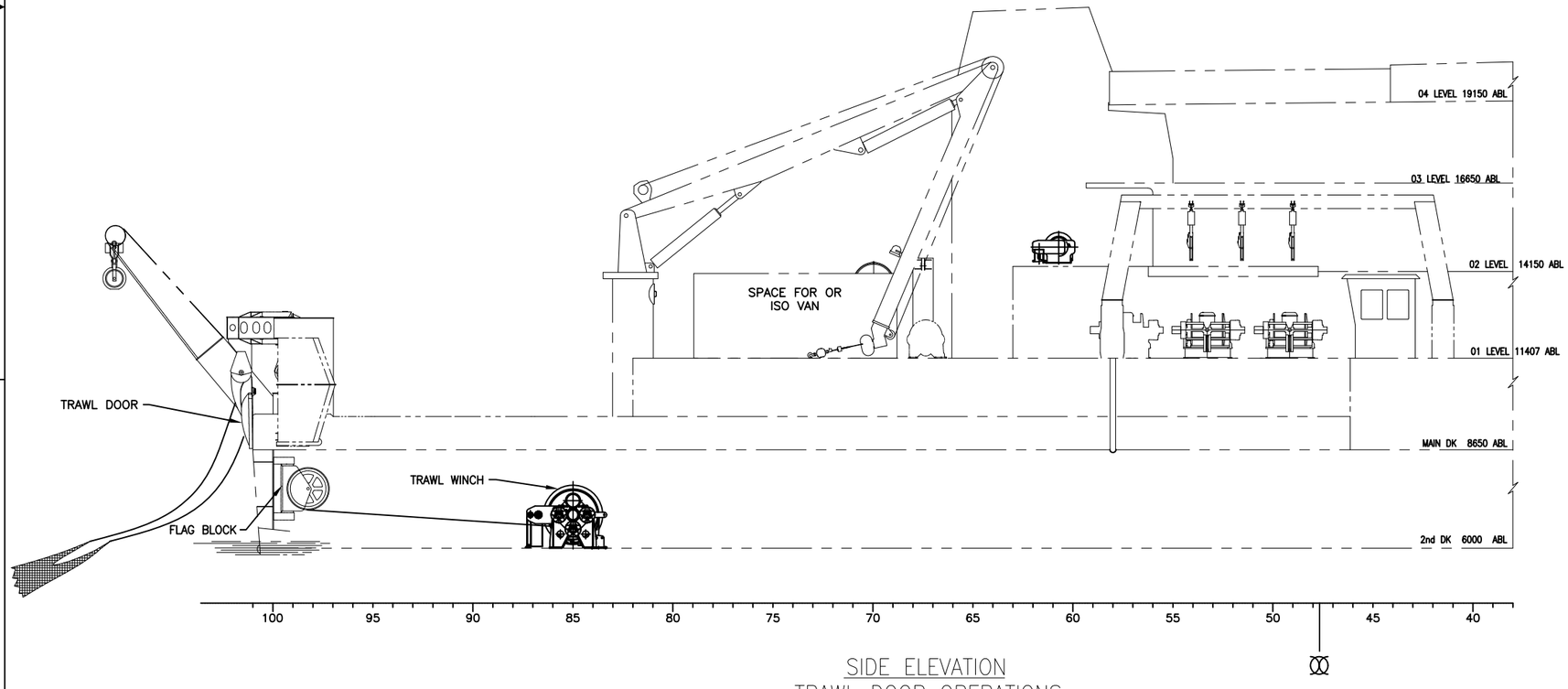
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	011	00
ESTIMATE NO	SCALE		FILE			SHEET 11 OF	
00–104	1:80						

PLOT: 1=80

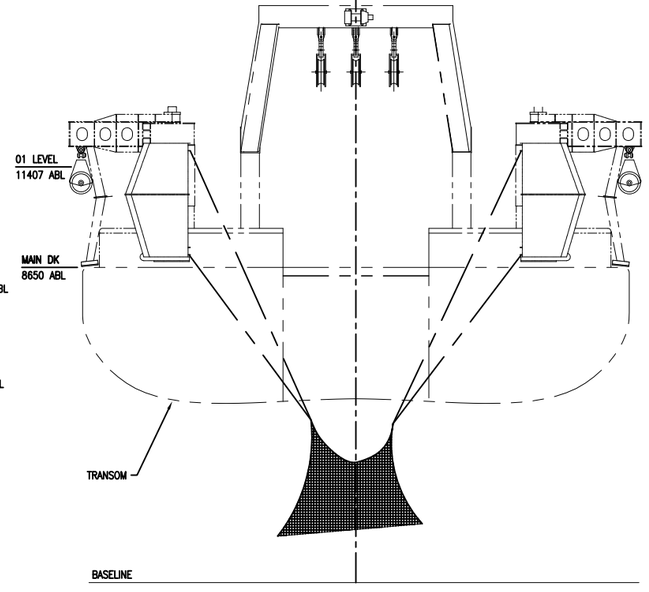


PLAN VIEW
TRAWL DOOR OPERATIONS

SELECTED FITTINGS AND EQUIPMENT ON AFT MAIN DECK REMOVED FOR CLARITY



SIDE ELEVATION
TRAWL DOOR OPERATIONS

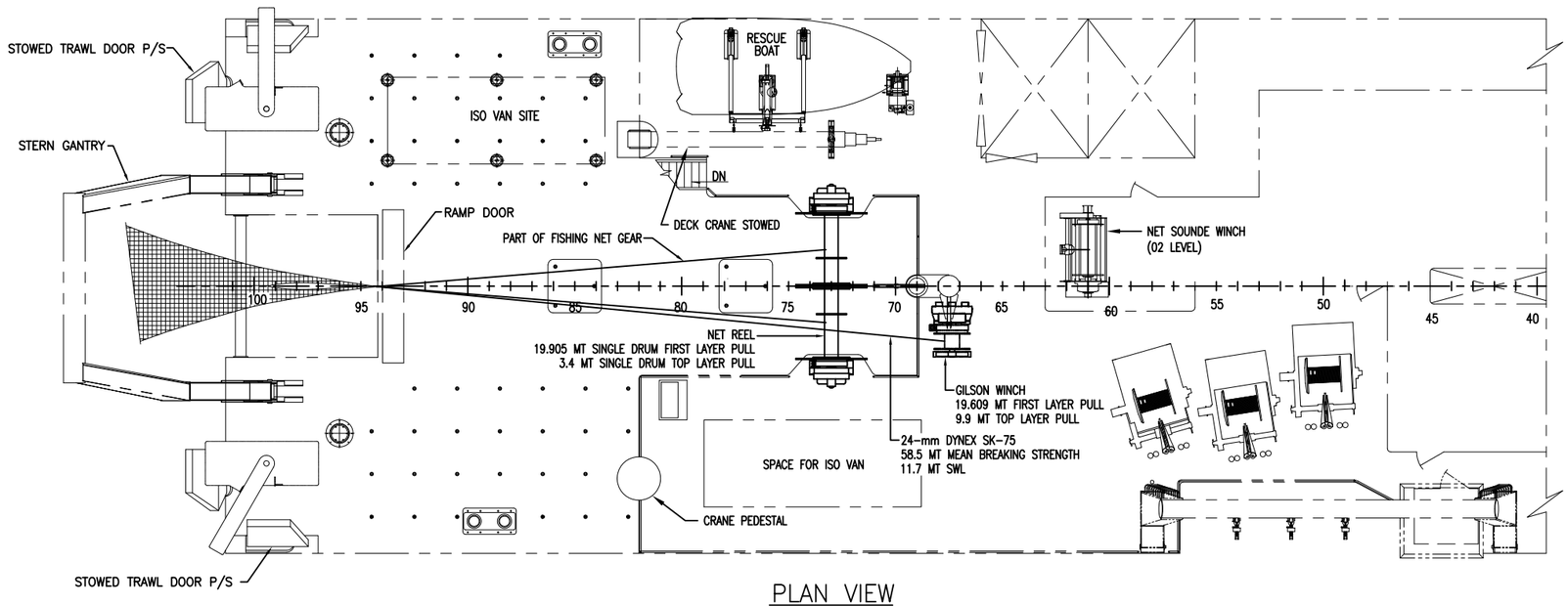


LOOKING FWD
TRAWL DOOR OPERATIONS

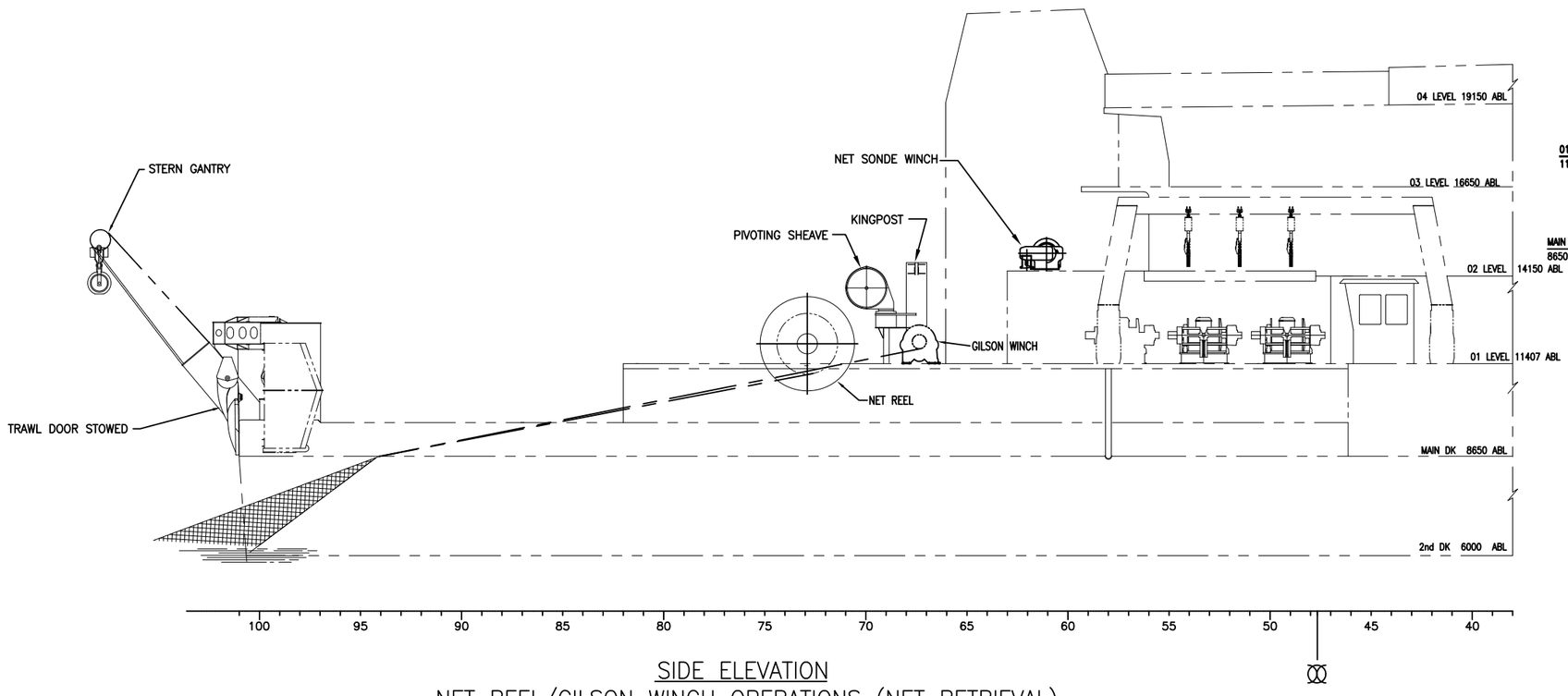
DWG NO. M282-085-FZ30 SH 12

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	012	00
ESTIMATE NO 00-104	SCALE 1:80		FILE			SHEET 12 OF	

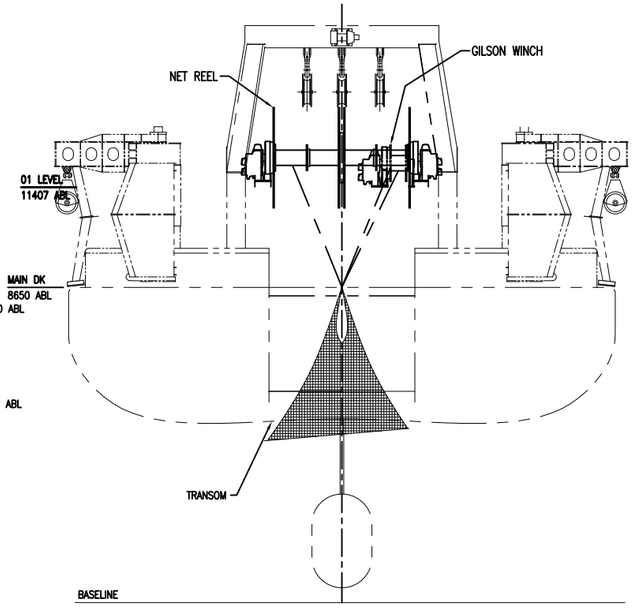
PLOT: 1=80



PLAN VIEW
NET REEL/GILSON WINCH
OPERATIONS (NET RETRIEVAL)



SIDE ELEVATION
NET REEL/GILSON WINCH OPERATIONS (NET RETRIEVAL)

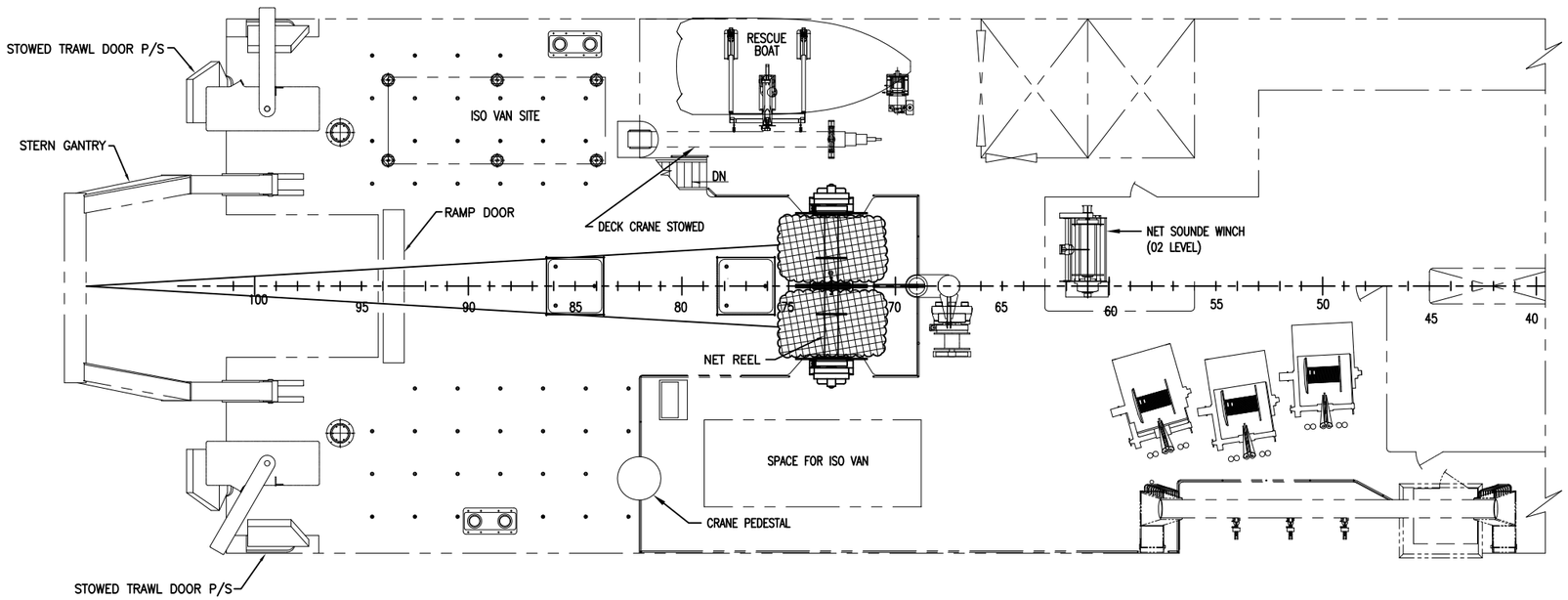


LOOKING FWD
NET REEL/GILSON WINCH OPERATIONS
(NET RETRIEVAL)
STERN GANTRY AND GALLOWS REMOVED FOR CLARITY

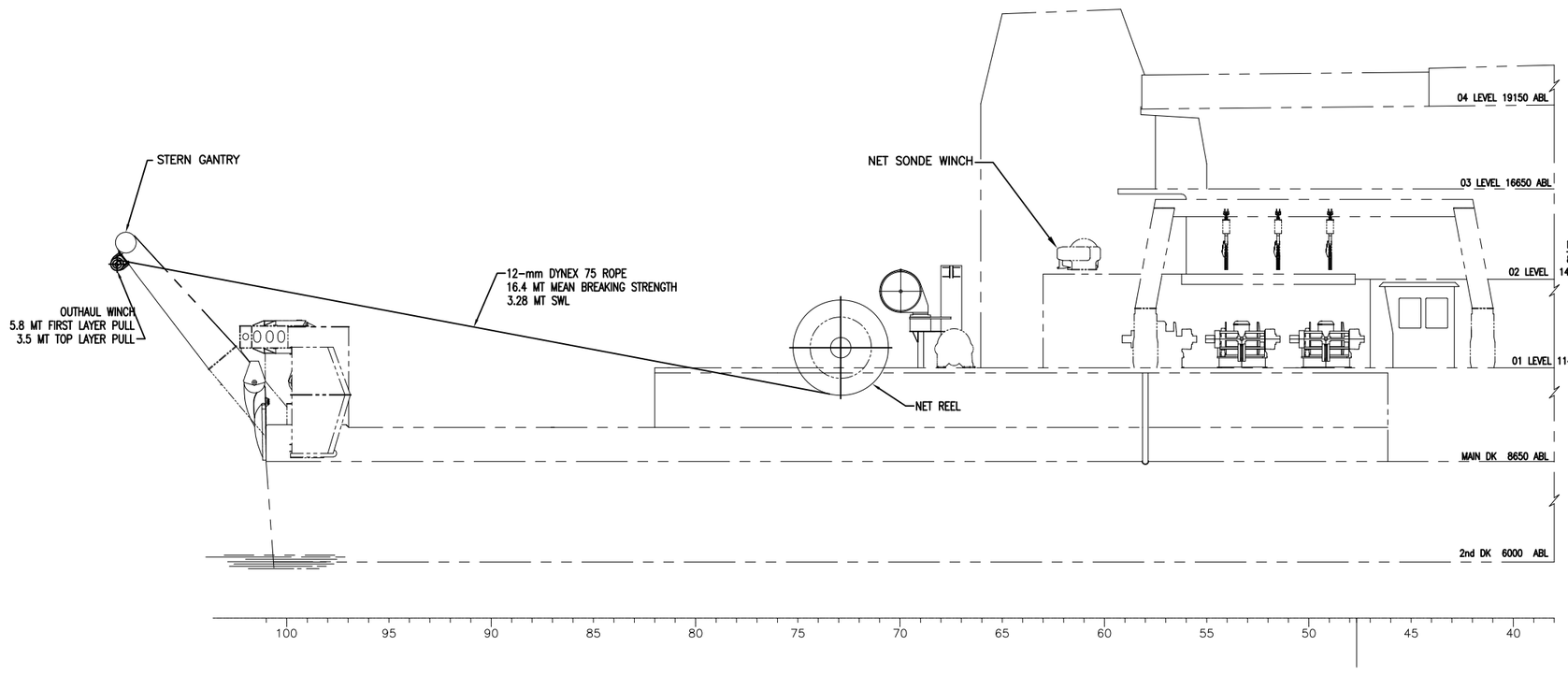
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	013	00
ESTIMATE NO	SCALE						
00-104	1:80		FILE			SHEET 13 OF	

PLOT: 1=80

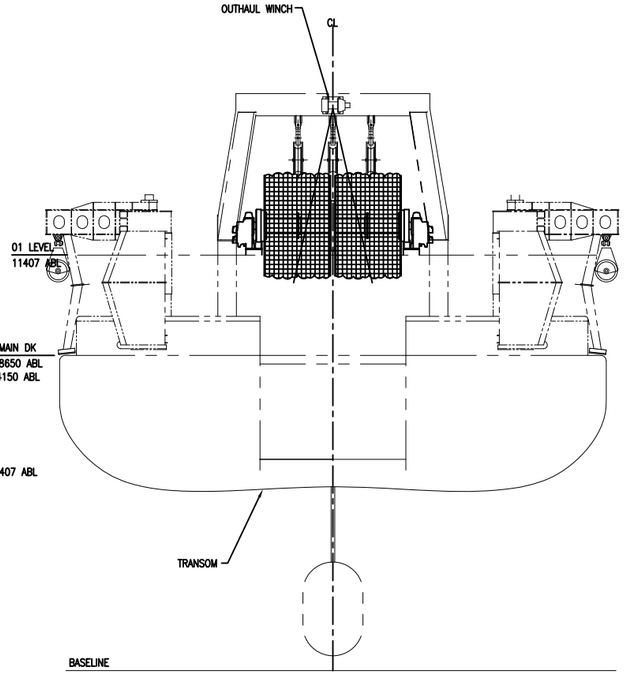
DWG NO. M282-085-FZ30 SH 13



PLAN VIEW – NET OUTHAUL OPERATIONS



SIDE ELEVATION – NET OUTHAUL OPERATIONS

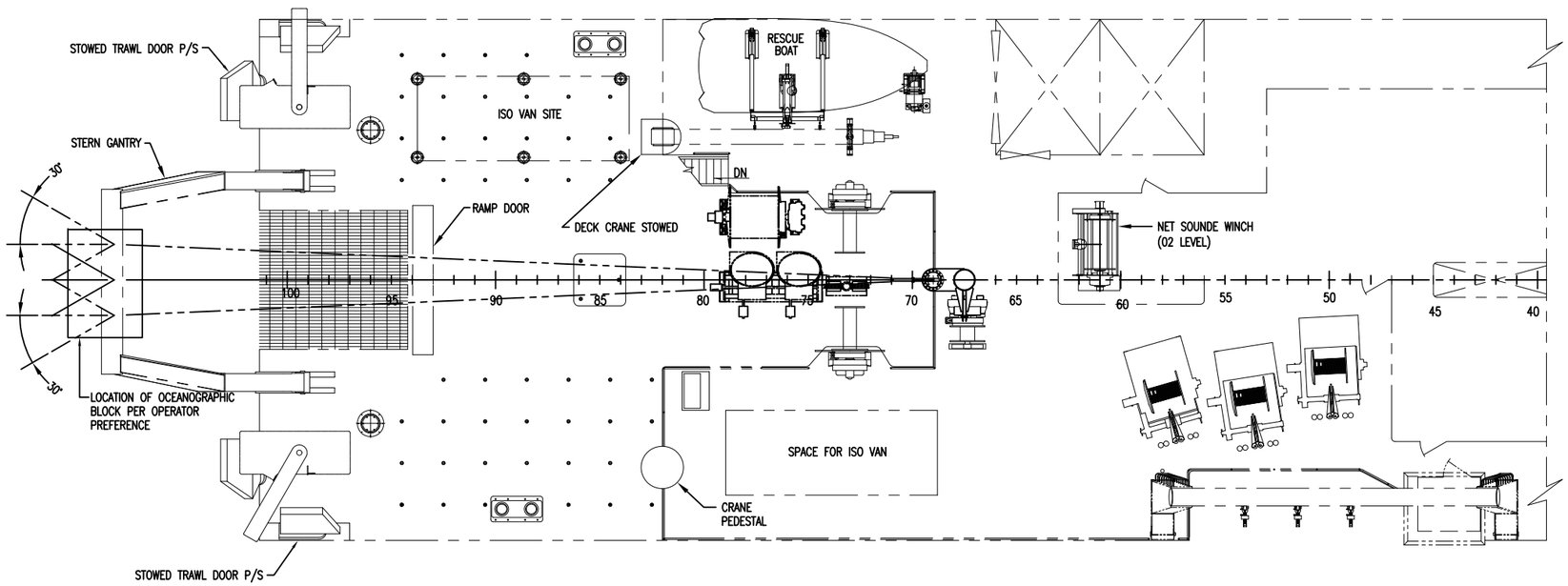


LOOKING FWD
NET OUTHAUL OPERATIONS

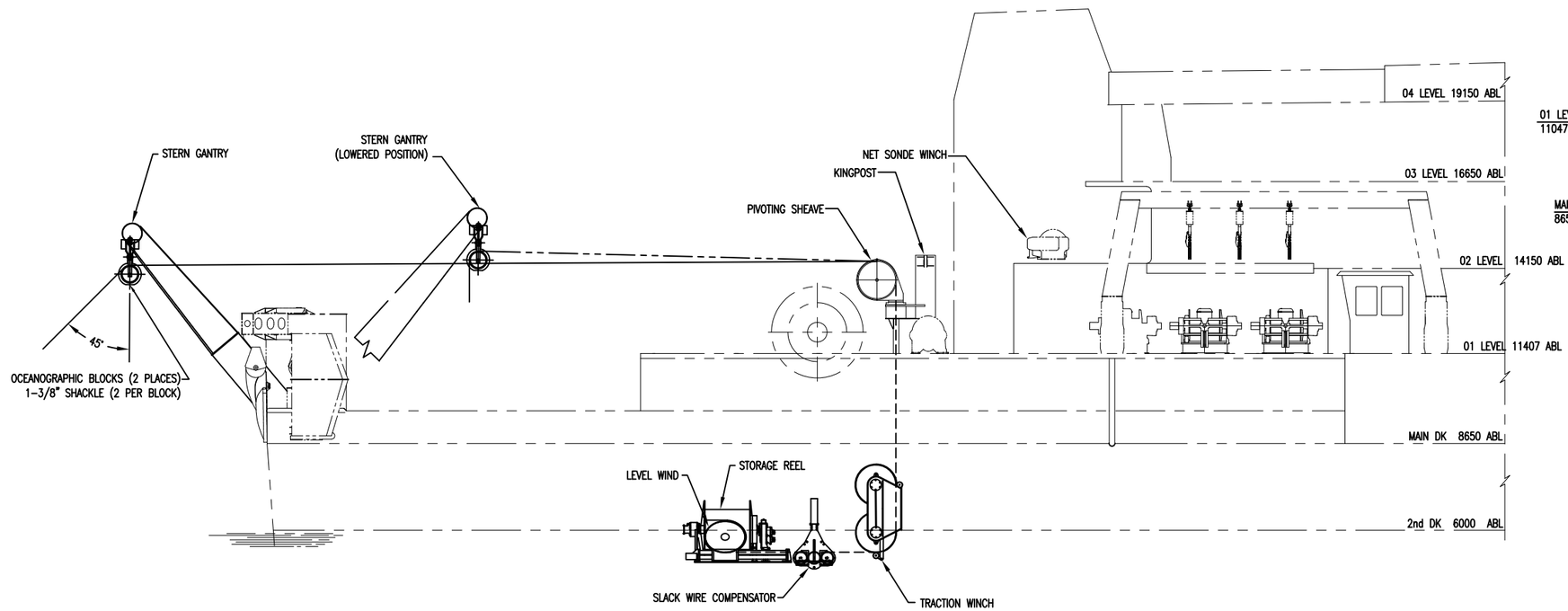
DWG NO. M282–085–FZ30 SH 14

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	014	00
ESTIMATE NO	SCALE		FILE			SHEET 14 OF	
00–104	1:80						

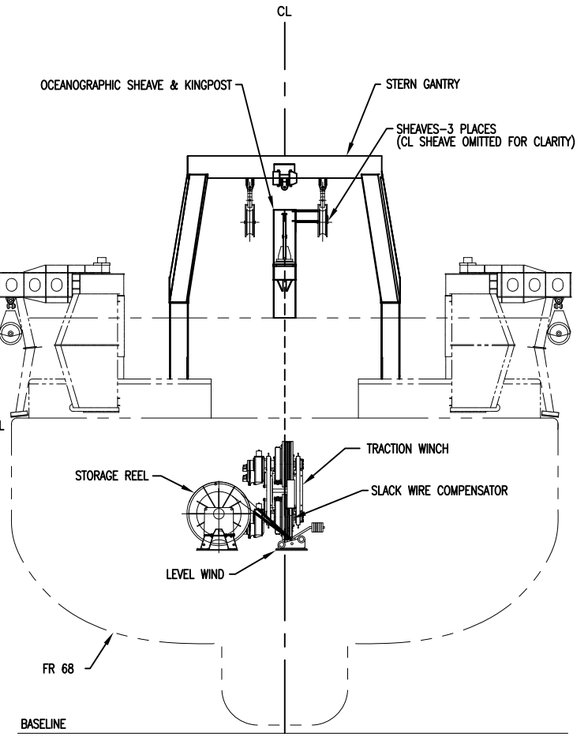
PLOT: 1=80



PLAN VIEW
OCEANOGRAPHIC WINCH OPERATIONS



SIDE ELEVATION – OCEANOGRAPHIC WINCH OPERATIONS

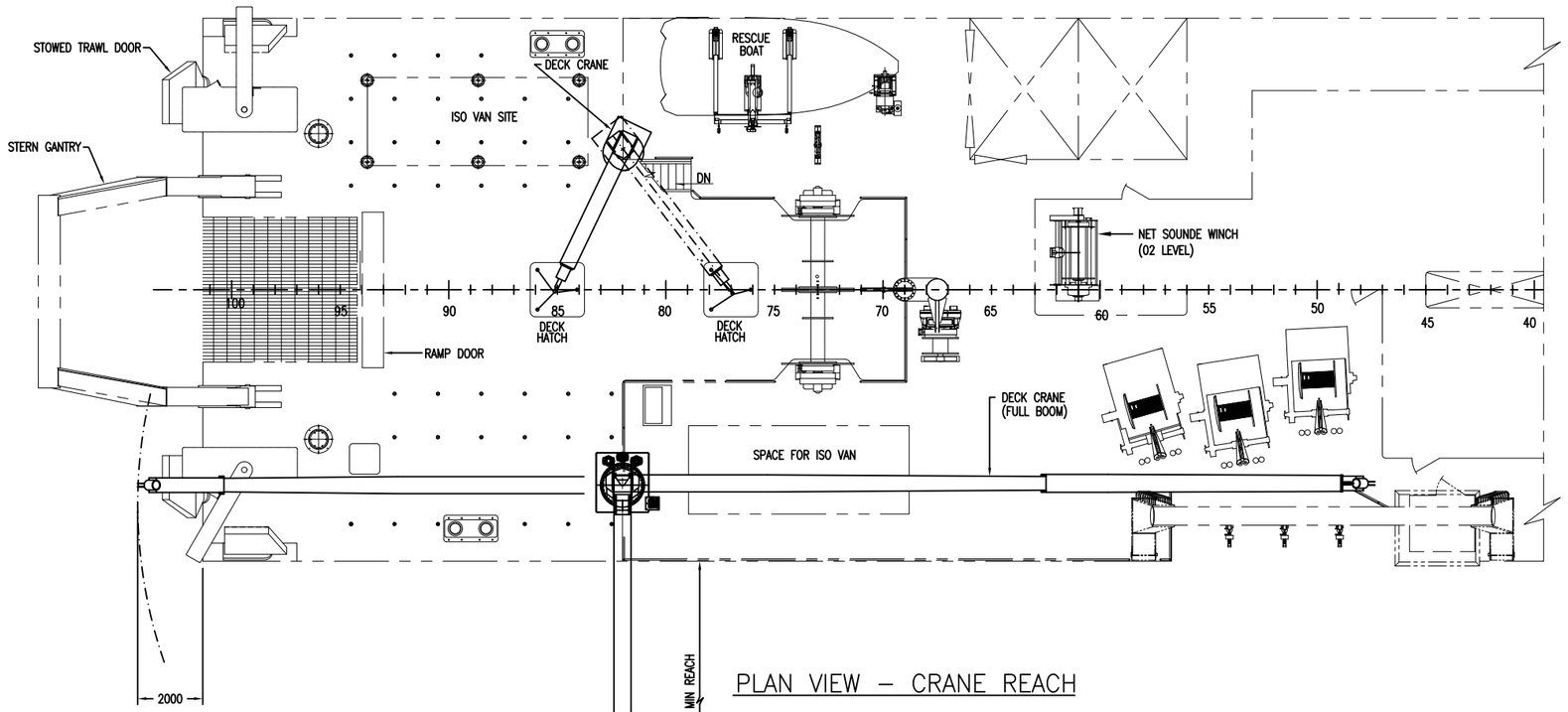


LOOKING FWD
OCEANOGRAPHIC WINCH OPERATIONS

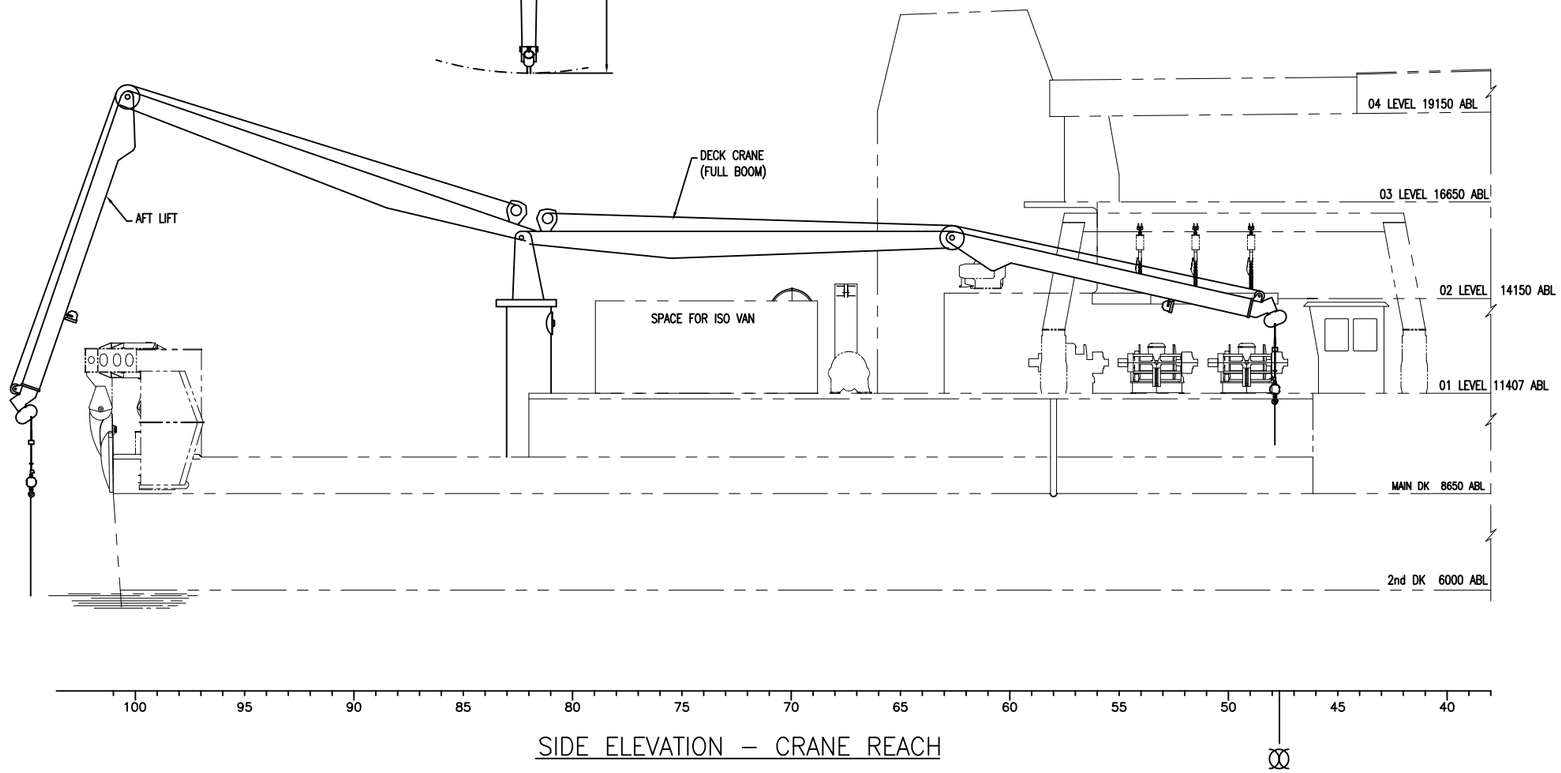
DWG NO: M282-085-FZ30 SH 15

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	015	00
ESTIMATE NO 00-104	SCALE 1:80		FILE			SHEET 15 OF	

PLOT: 1=80



PLAN VIEW – CRANE REACH



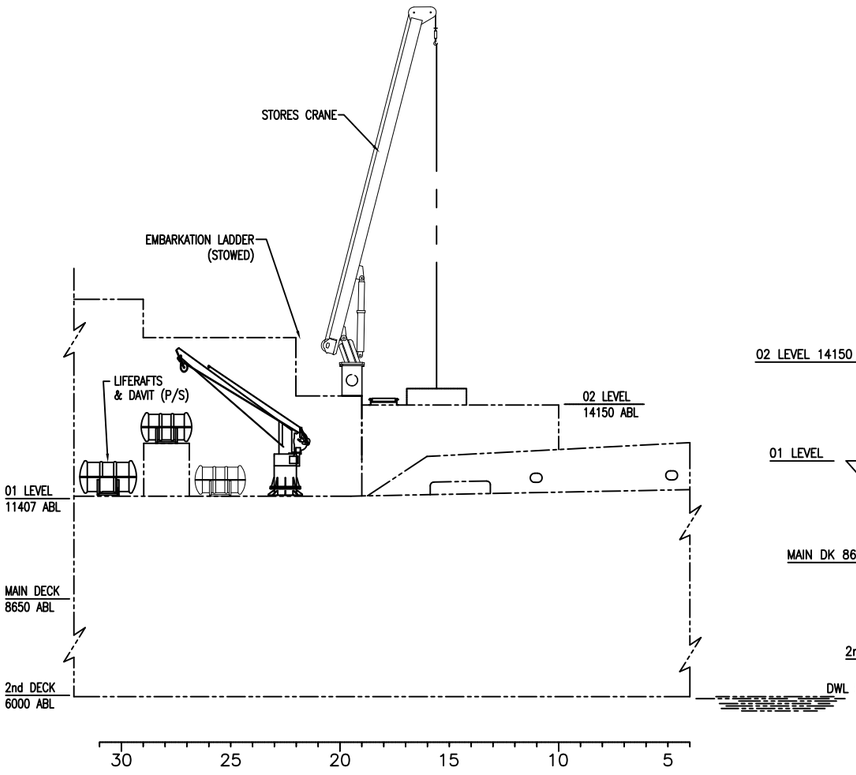
SIDE ELEVATION – CRANE REACH

LOADCHART FOR PORT AFT DECK CRANES				
	2.5-m SEAS			4.0-m SEAS, BOOM RETRACTED
OUTREACH	DOCKSIDE STATIC CAPACITY (KG)	AT SEA, ON VESSEL CAPACITY (KG)	AT SEA, OFF VESSEL CAPACITY (KG)	AT SEA, ON VESSEL CAPACITY (KG)
5	4,499.682	3,636.034	1,587.590	3,674.136
10	4,499.682	3,636.034	1,587.590	3,674.136
15	4,499.682	3,636.034	1,587.590	3,674.136
20	4,499.682	3,636.034	1,587.590	3,674.136
25	3,624.240	2,100.154	1,199.764	2,766.942
30	3,624.240	2,100.154	1,199.764	
35	3,624.240	2,100.154	1,199.764	
40	3,624.240	2,100.154	1,199.764	
45	2,100.154	1,356.255	948.018	
50	2,100.154	1,356.255	948.018	
55	1,356.255	875.442	780.187	
60	1,356.255	875.442	780.187	

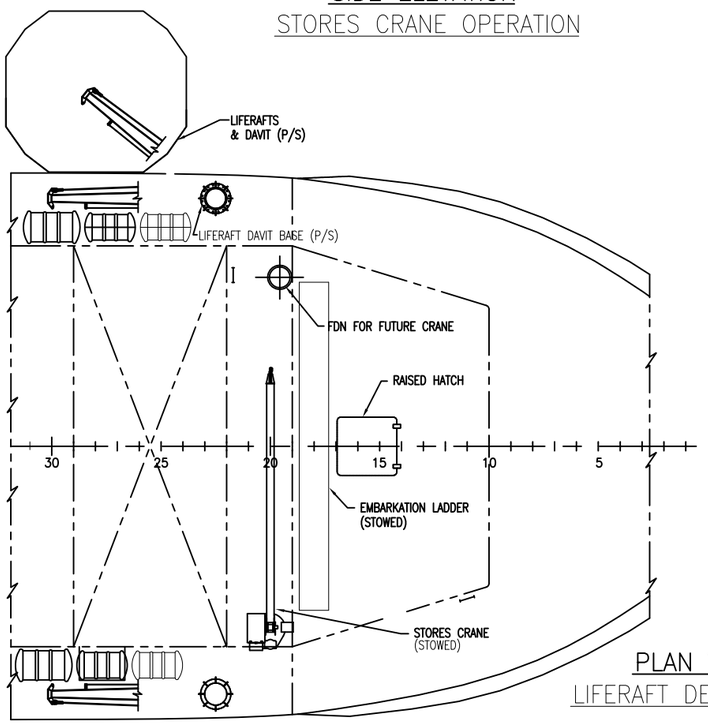
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	016	00
ESTIMATE NO 00–104	SCALE 1:80		FILE			SHEET 16 OF	

PLOT: 1=80

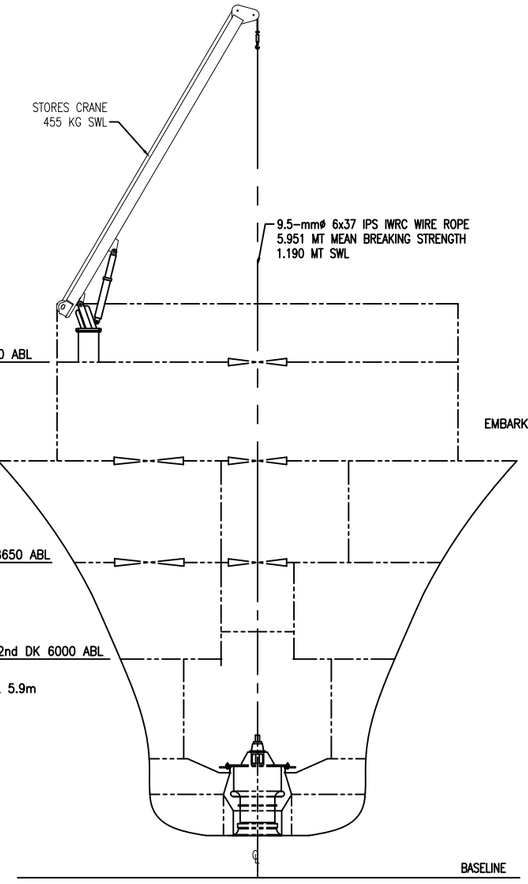
DWG NO. M282–085–FZ30 SH 16



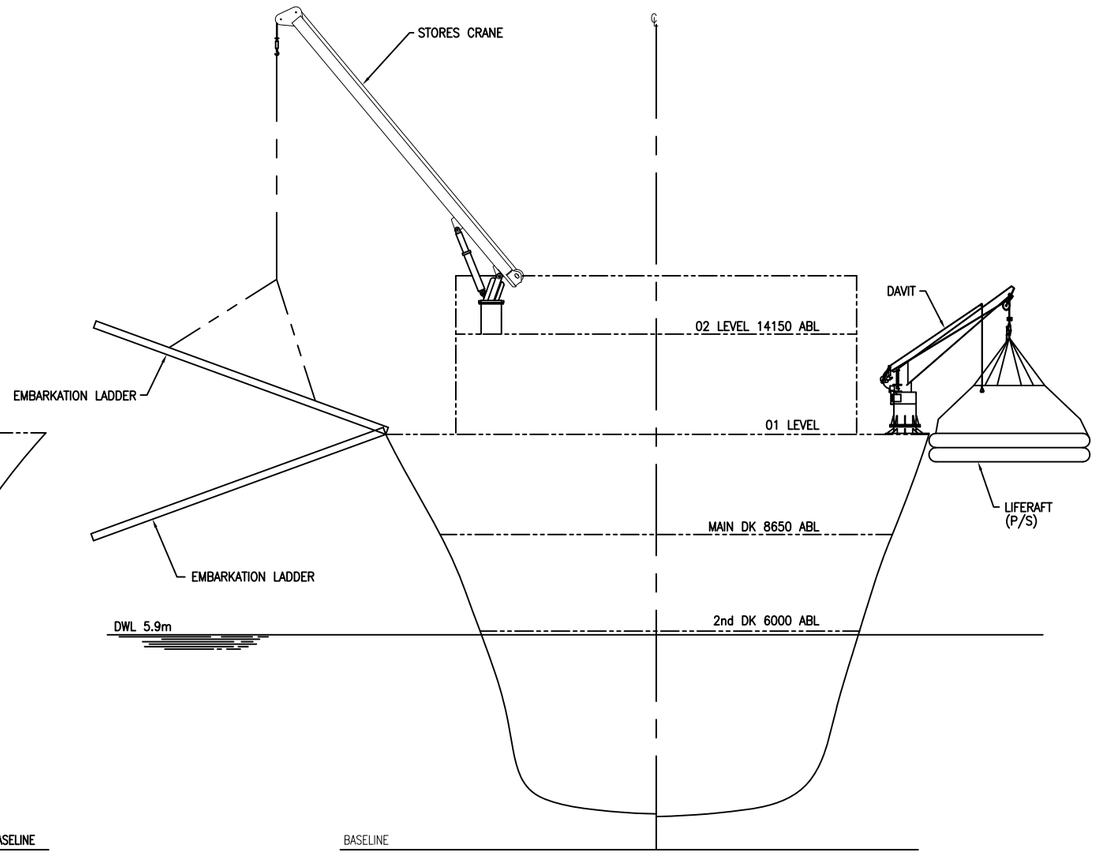
SIDE ELEVATION
STORES CRANE OPERATION



PLAN VIEW
LIFERAFT DEPLOYMENT



FR 16
STORES CRANE OPERATION



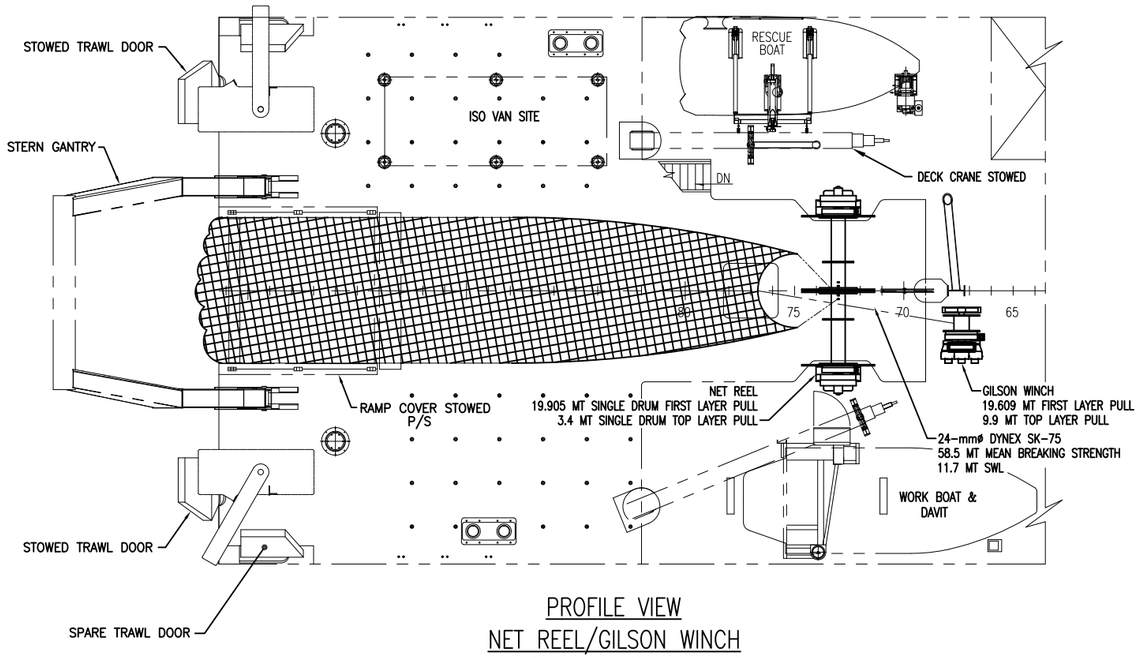
FR 19
LOOKING AFT
EMBARKATION LADDER OPERATION

FR 25
LOOKING AFT
LIFERAFT DEPLOYMENT

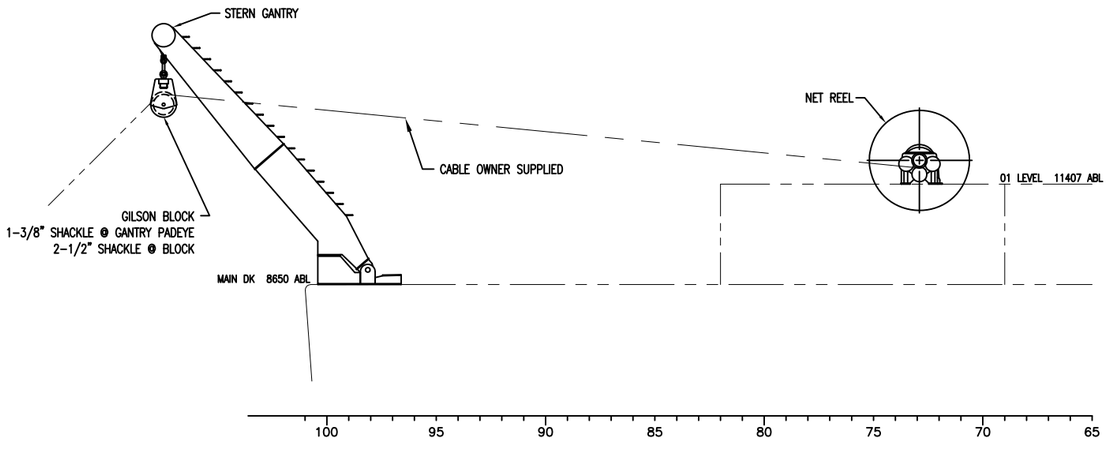
DWG NO. M282-085-FZ30 SH 17

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	017	00
ESTIMATE NO	SCALE		FILE			SHEET 17 OF	
00-104	1:80						

PLOT: 1=80



PROFILE VIEW
NET REEL/GILSON WINCH
NET RETREIVAL ON-DECK OPERATIONS

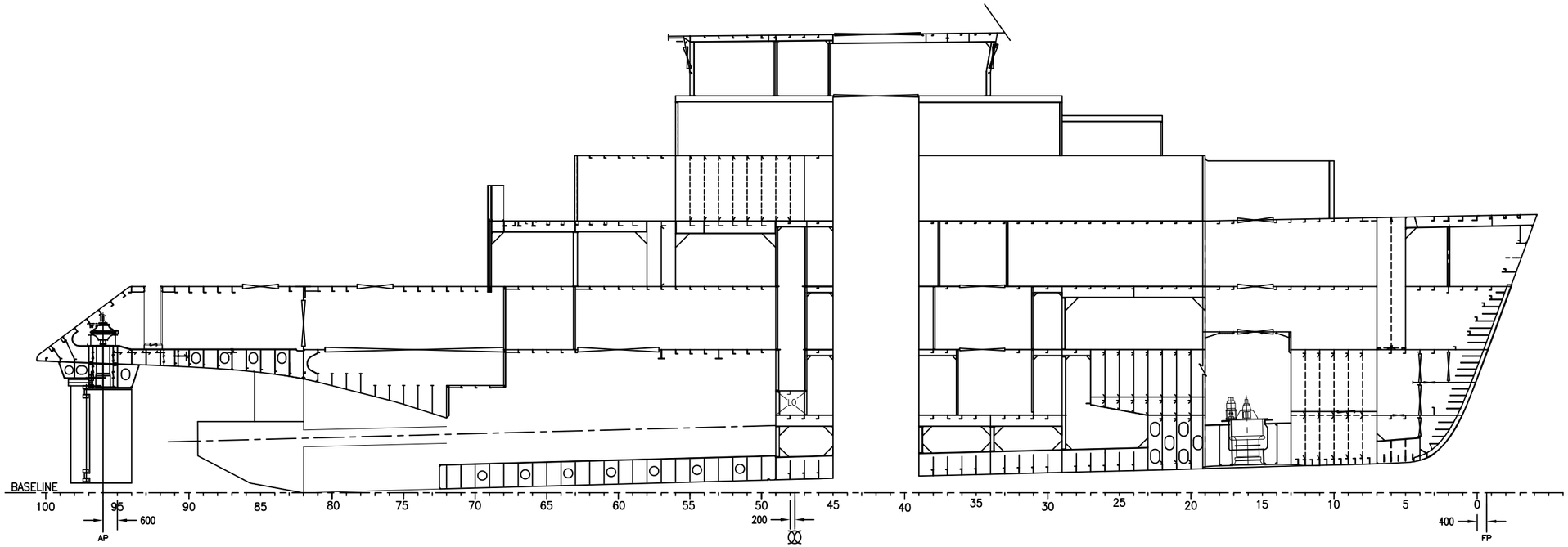


PROFILE VIEW
NET REEL/STERN GANTRY
AFT DEPLOYMENT OPERATIONS

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
applicability	3B213	D	M282	085	FZ30	018	00
ESTIMATE NO	SCALE		FILE			SHEET 18 OF	
00-104	1:80						

PLOT: 1=80

DWG NO. M282-085-FZ30 SH 18

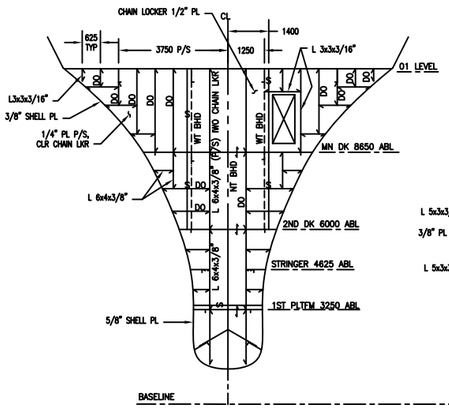


INBOARD PROFILE @ CL

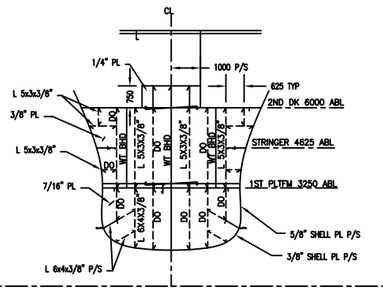
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	019	00
ESTIMATE NO	SCALE		FILE			SHEET 19 OF	
00-104	1:100						

PLOT: 1=100

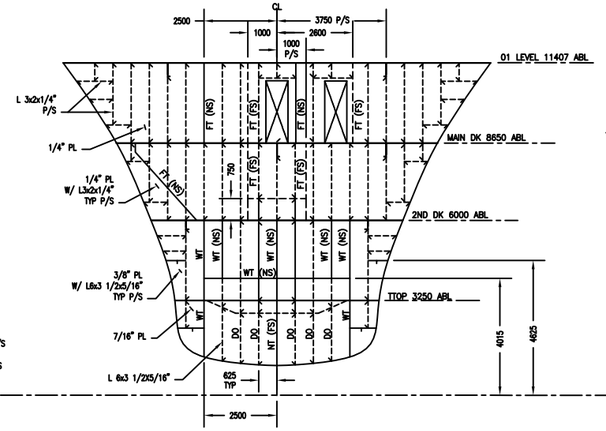
DWG NO. M282-085-FZ30 SH 19



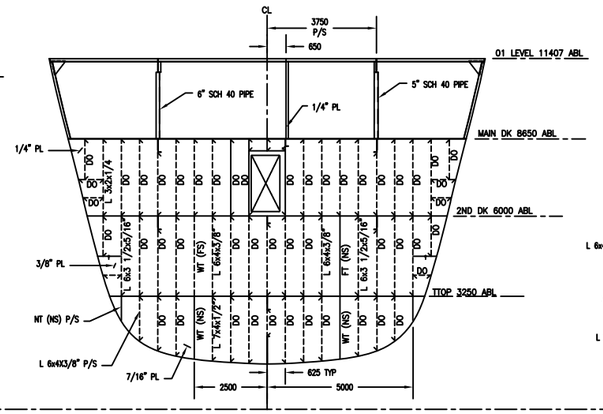
FRAME 7
LKG FWD



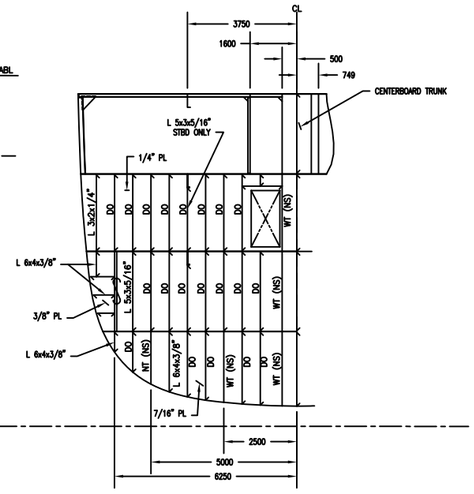
FRAME 13
LKG FWD



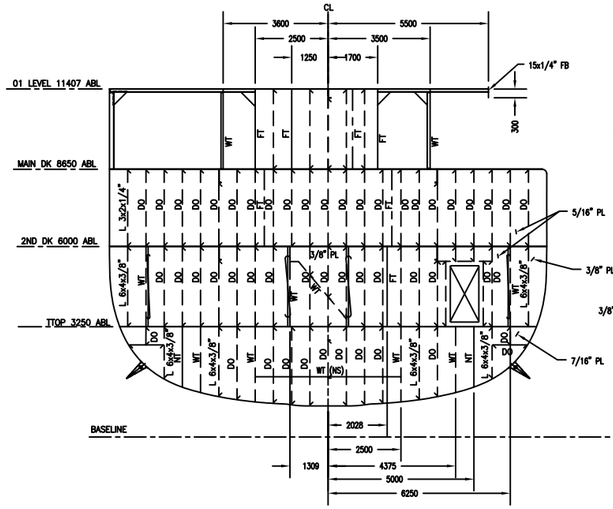
FRAME 19
LKG FWD



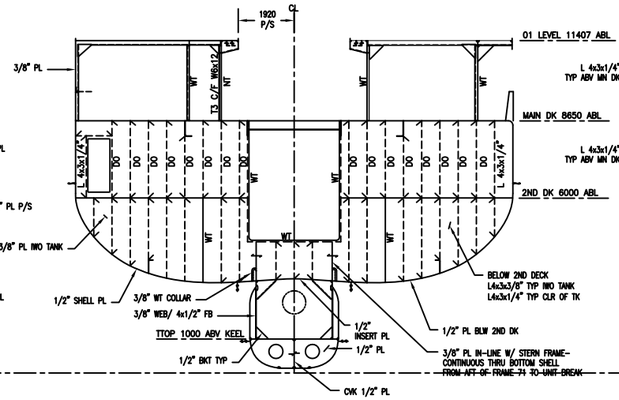
FRAME 29
LKG FWD



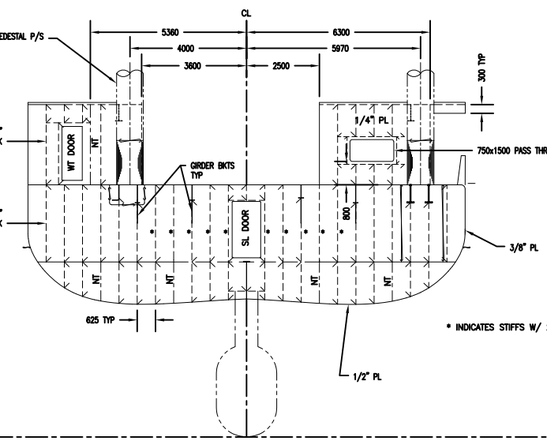
FRAME 39
LKG FWD, STBD SIM



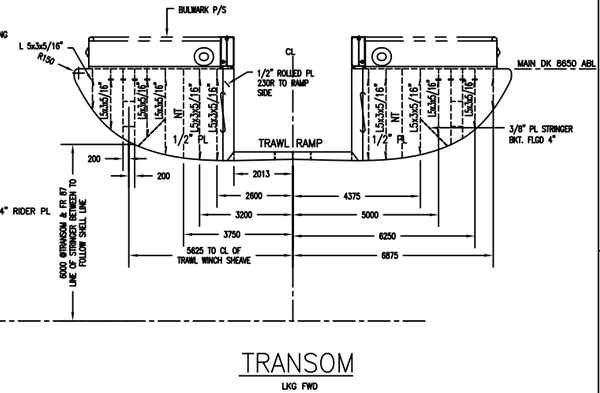
FRAME 49
LKG FWD


1920 P/S
CL
01 LEVEL 11407 ABL
3/8" PL
T3 C/F W8x12
NT
WT
MAIN DK 8650 ABL
L 4x3x1/4" TYP ABV MN DK
L 4x3x1/4"
2ND DK 6000 ABL
3/8" PL INCO TANK
1/2" SHELL PL
3/8" WT COLLAR
3/8" WEB/ 4x1/2" FB
TTOP 1000 ABV KEEL
1/2" INSERT PL
1/2" PL
1/2" BKT TYP
CWK 1/2" PL
BELOW 2ND DECK L4x3x3/8" TYP INCO TANK L4x3x1/4" TYP CLR OF TK
1/2" PL BLW 2ND DK
3/8" PL IN-LINE W/ STERN FRAME-- CONTINUOUS THRU BOTTOM SHELL FROM AFT OF FRAME 74 TO UNIT BREAK

FRAME 72
LKG FWD



FRAME 82
LKG FWD



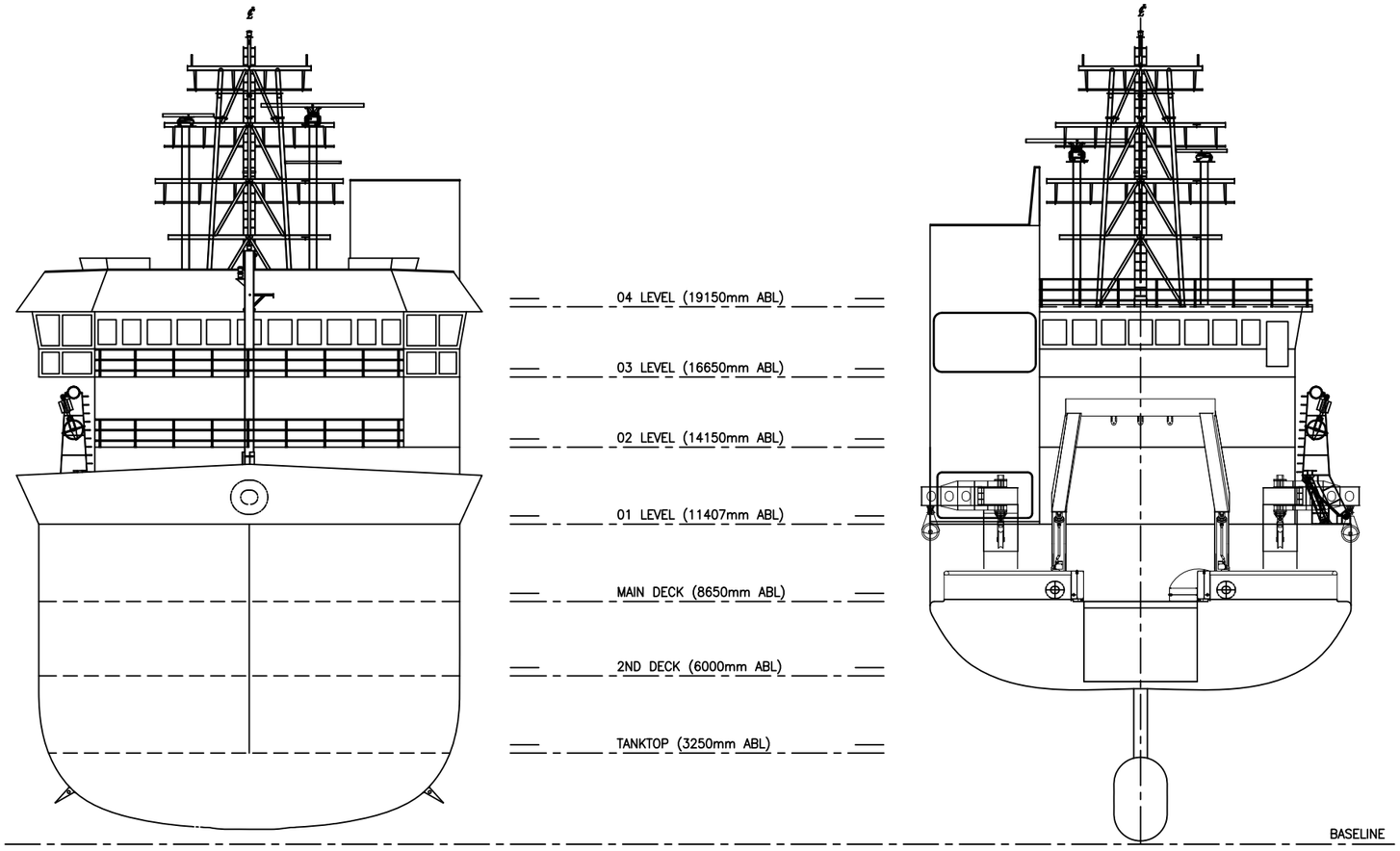
TRANSOM
LKG FWD

MAJOR TRANSVERSE SECTIONS

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	020	00
ESTIMATE NO	SCALE		FILE			SHEET 20 OF	
00-104	1:100						

PLOT: 1=100

DWG NO. M282-085-FZ30 SH 20



BOW SECTION

STERN SECTION
TRANSOM LKG FWD

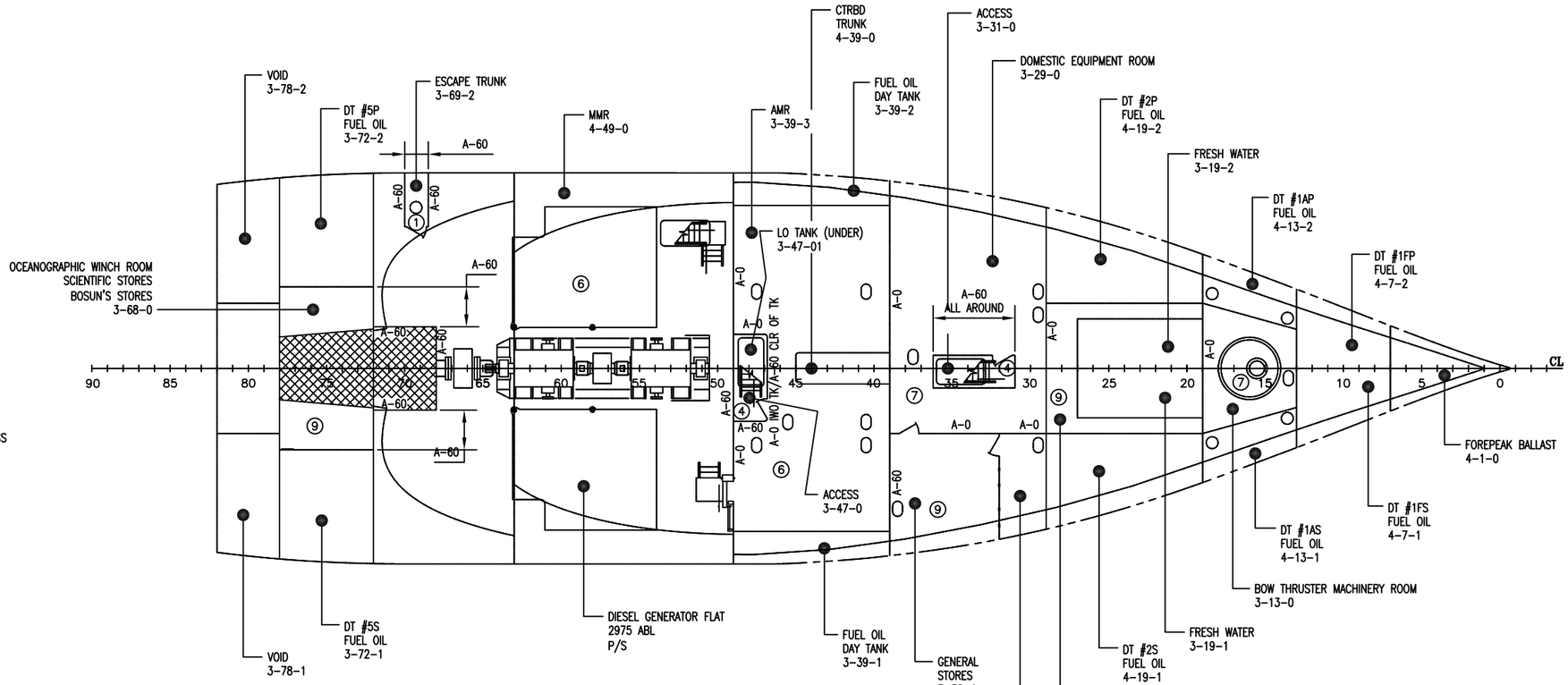
DWG NO. M282-085-FZ30 SH 21

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	021	00
ESTIMATE NO	SCALE		FILE			SHEET 21 OF	
00-104	1:100						

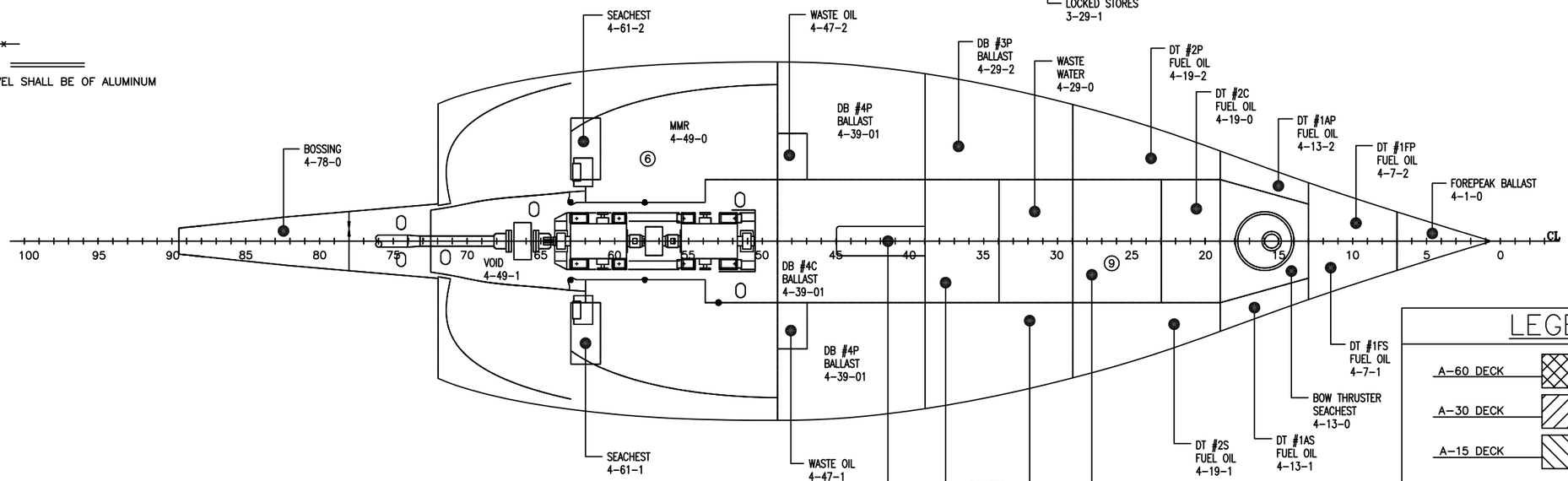
PLOT: 1=100

GENERAL NOTES:

1. ALL DECKS A-0 RATED UNLESS NOTED OTHERWISE.
2. A NUMBER IN THE CIRCLE ⓧ INDICATES SOLAS SPACE DESIGNATION TO DETERMINE BHDS & DECKS FIRE INTEGRITY.
3. INSULATION SHOWN CROSS HATCHED IS FOR THE UNDERSIDE OF THE DECK. SEE LEGEND FOR HATCHING DEFINITION.
4. METHOD OF PROTECTION FROM SOLAS CHAPTER II-2, REGULATION NO. 42 IS METHOD IC FOR ACCOMMODATIONS AND SERVICE SPACES.
5. DOORS, HATCHES AND PENETRATIONS SHALL HAVE THE SAME FIRE INTEGRITY AS THE BULKHEAD OR DECK IN WHICH THEY ARE INSTALLED UNLESS NOTED OTHERWISE.
6. STAIRS WHICH PENETRATE MORE THAN A SINGLE DECK SHALL BE SURROUNDED BY AT LEAST "A-0" CLASS DIVISIONS & BE PROTECTED BY SELF-CLOSING DOORS AT ALL LEVELS.
7. ALL BHDS WITHIN THE ACCOMMODATION & SERVICE SPACES REQUIRED TO BE "B" CLASS DIVISIONS SHALL EXTEND FROM DECK TO DECK & TO THE SHELL OR OTHER BOUNDARIES, UNLESS "B" CLASS CEILINGS OR LININGS ARE FITTED ON BOTH SIDES OF THE BHD IN WHICH CASE THE BHD MAY TERMINATE AT THE CONTINUOUS CEILING OR LINING.
8. ALL STRUCTUAL BULKHEADS, STANCHIONS, & DECKS IN ALUMINIUM HOUSE TO BE INSULATED IAW SNAME T&R BULLETIN 2-21 "ALUMINUM FIRE PROTECTION GUIDELINES" TO OBTAIN THE PROPER STRUCTURAL FIRE PROTECTION RATINGS. REF 3 PROVIDES THE THE NECESSARY INSULATION INSTALLATION PRO-CEDURES FOR ALUMINUM SUPERSTRUCTURES.
9. ALL ABREVIATIONS ARE IN ACCORDANCE WITH MIL-STD 12D. EXCEPT AS FOLLOWS.
   BERP= BOLTED EQUIPMENT REMOVAL PLATE
   WERP= WELDED EQUIPMENT REMOVAL PLATE
   EOS= ENGINEER'S OPERATING STATION
   MMR= MAIN MACHINERY ROOM
10. BULKHEADS ARE TO BE IDENTIFIED AS FOLLOWS:
    STEEL/ALUMINIUM BHD = ————
    STEEL/ALUMINUM BHD = ═══
    (W/JOINER LINING)
    JOINER BHD = ═══
    EXPANDED METAL BHD = —×—×—×—
    NON-TIGHT STEEL/ALUMINUM BHD = ═══
11. SUPERSTRUCTURE ABOVE THE 01 LEVEL SHALL BE OF ALUMINUM CONSTRUCTION.



TANKTOP



INNERBOTTOM

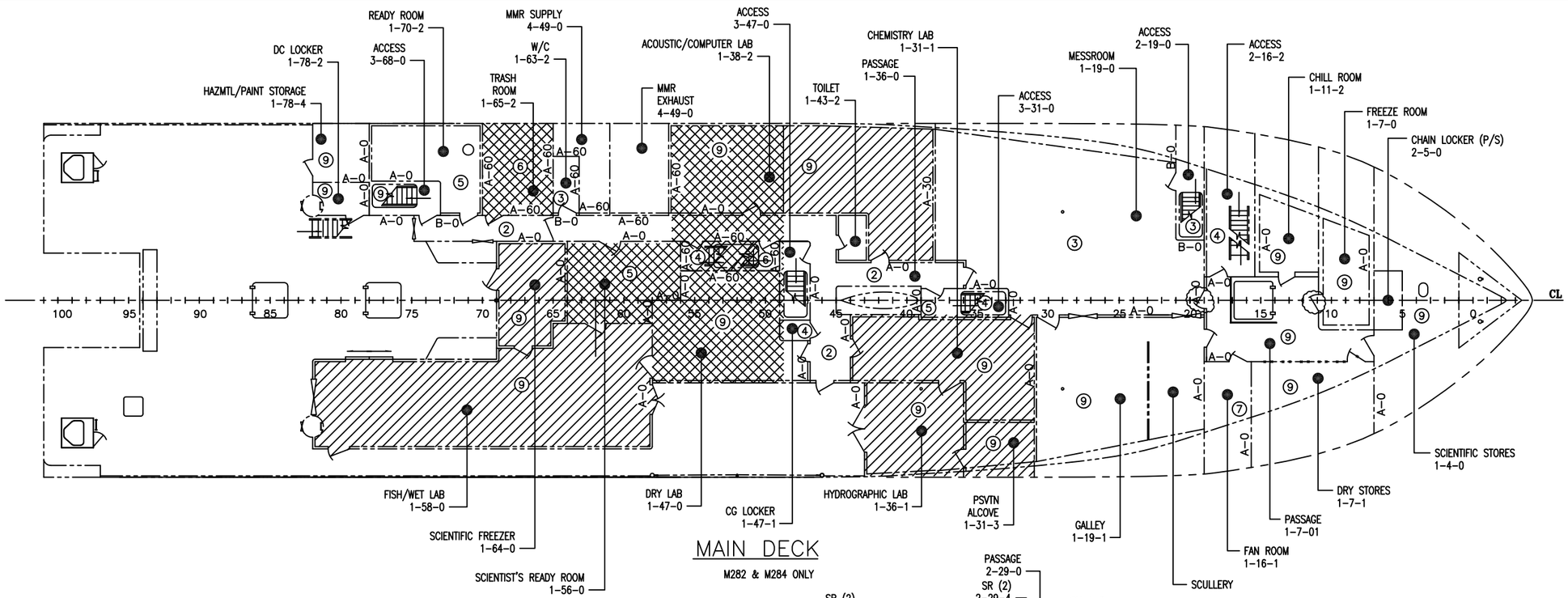
LEGEND

- A-60 DECK
- A-30 DECK
- A-15 DECK

DWG NO. M282-085-FZ30 SH 22

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	022	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 22 OF	

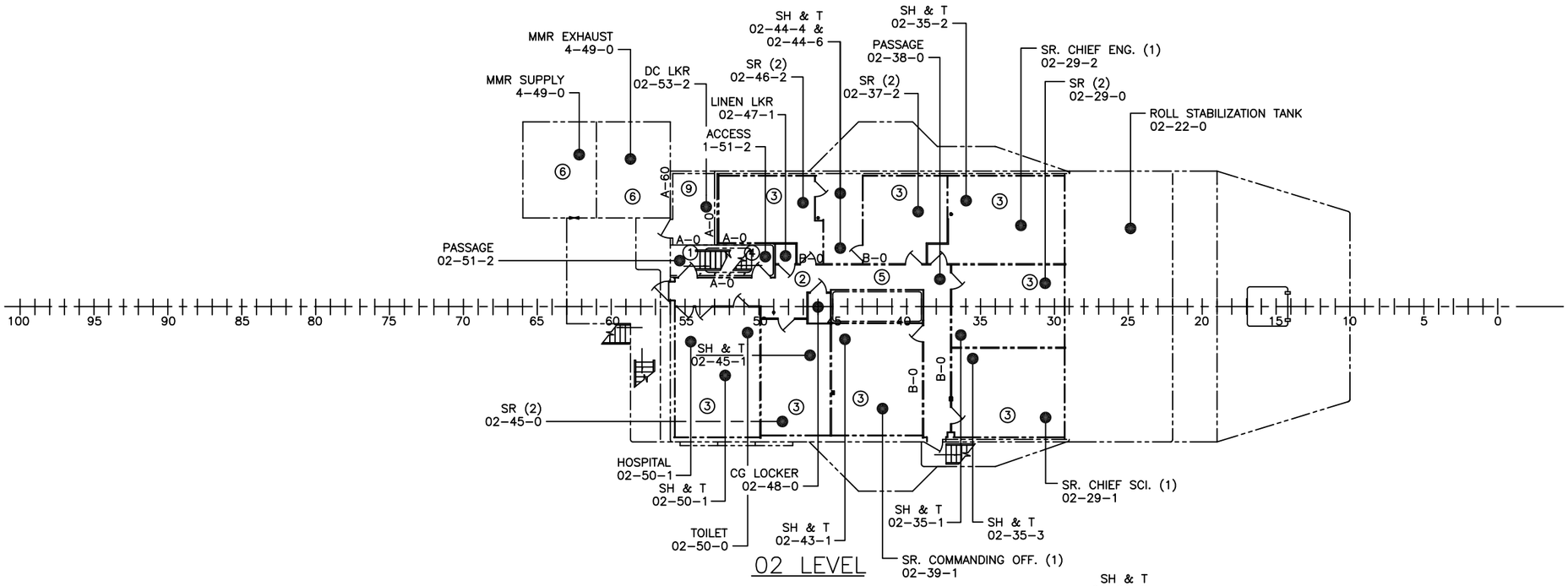
PLOT: 1=100



HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	023	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 23 OF	

PLOT: 1=100

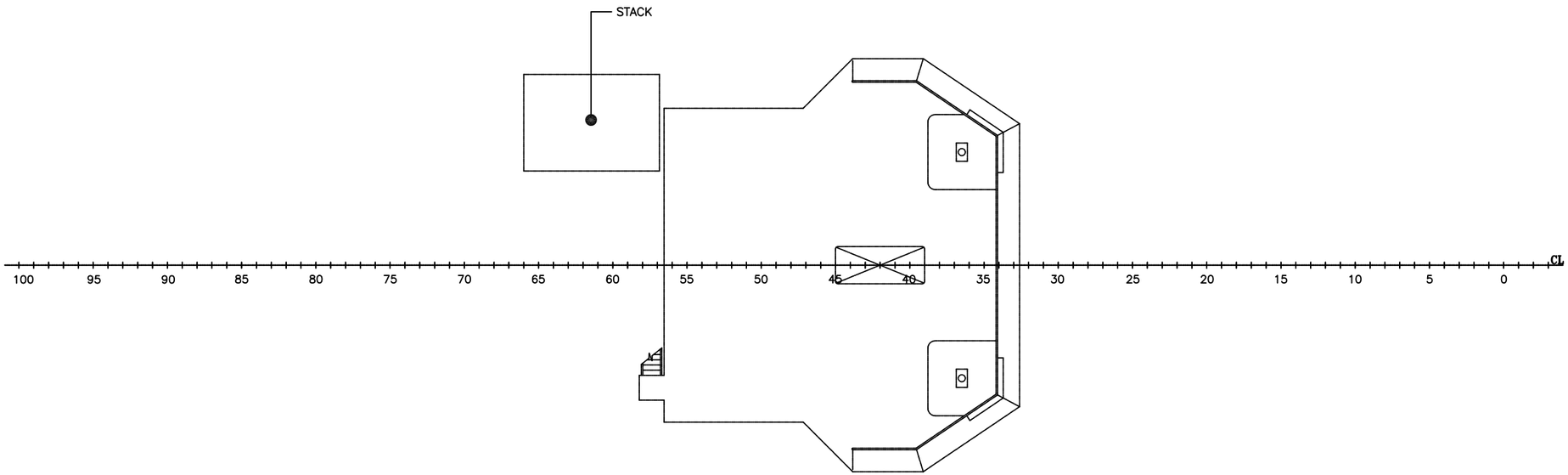
DWG NO. M282-085-FZ30 SH 23



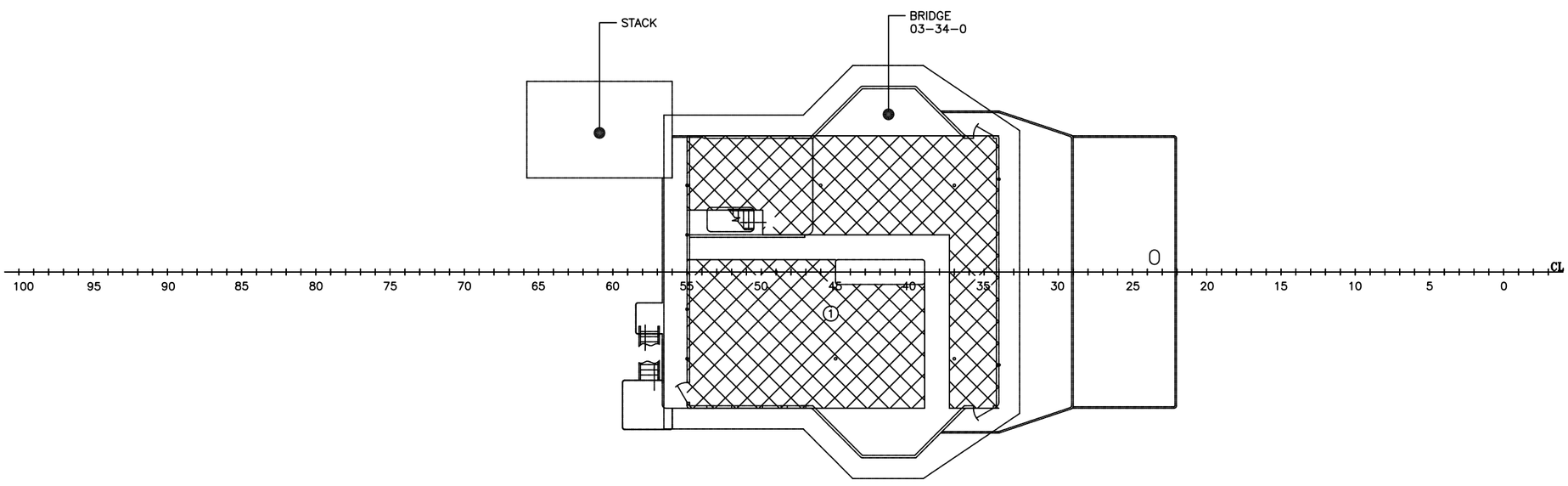
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	024	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 24 OF	

PLOT: 1=100

DWG NO. M282-085-FZ30 SH 24



04 LEVEL



03 LEVEL

LEGEND

- A-60 DECK
- A-30 DECK
- A-15 DECK

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	025	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 25 OF	

PLOT: 1=100

DWG NO. M282-085-FZ30 SH 25

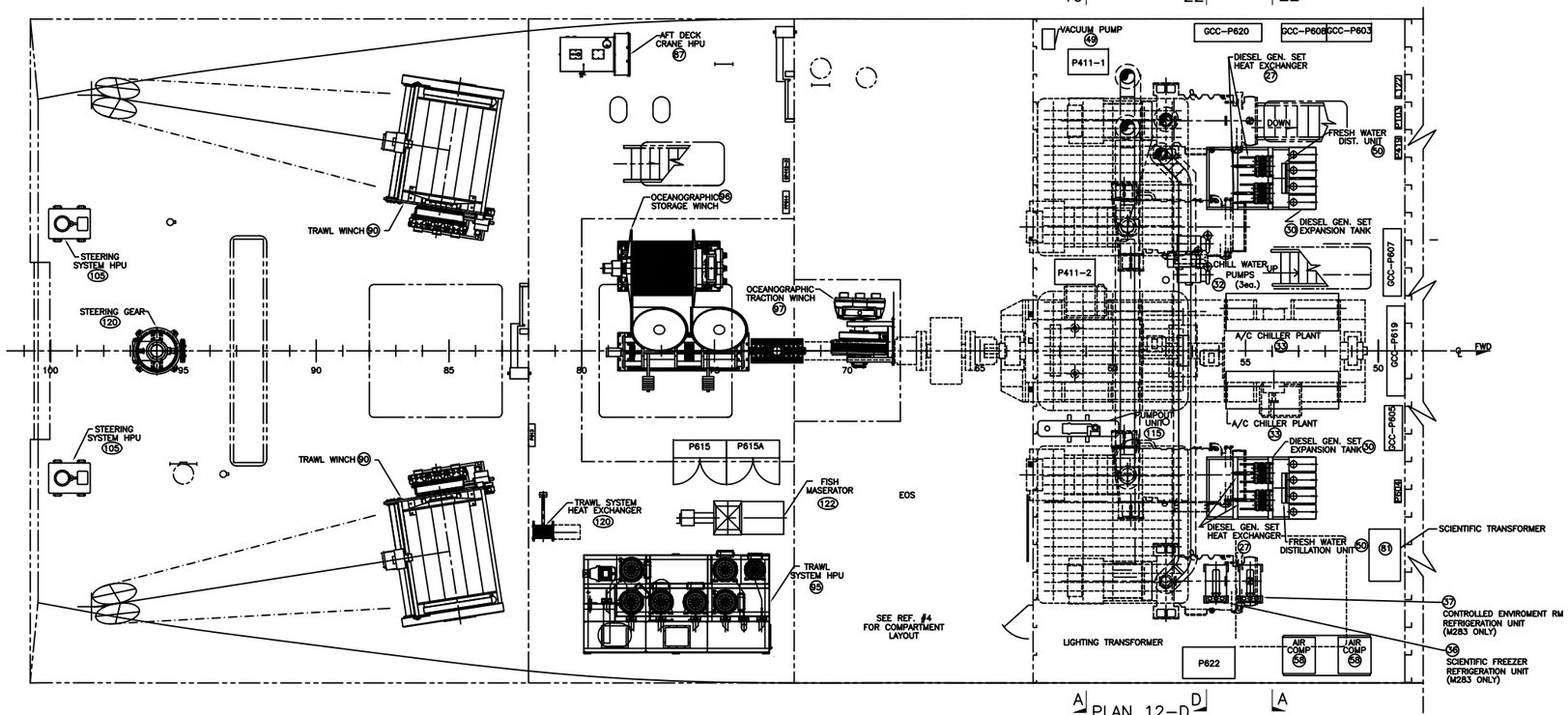
ITEM NO.	QTY	DESCRIPTION	LOCATION	MANUFACTURE/ VENDOR	MODEL #	REMARKS	WGT KG
1	2	DIESEL GENERATOR SET (1360 KW)	MMR	CATERPILLAR	3512B DITA SCAC	DIESEL DRIVEN, RESILIENTLY RAFTED	15,211
2	2	DIESEL GENERATOR SET (910 KW)	MMR	CATERPILLAR	3508B DITA SCAC	DIESEL DRIVEN, RESILIENTLY RAFTED	12,019
3	4	DIESEL GENERATOR SET JACKET WATER HEATER	MMR	CATERPILLAR	N/A	12kw,480V 1 PH 60HZ.(2 PER ENGINE)	
4	4	~~DIESEL GENERATOR SET FUEL OIL HEATER~~	~~MMR~~	~~CHROMALOX~~	~~NWHO-182VFW1E4XX~~	~~25kw, 600V 3PH 60HZ, MOD 4468-302XXX CONTRCL BOX,~~	
5	1	ELECTRIC PROPULSION SYSTEM	MMR	ANSALDO	SEE REMARKS	DHT Z73 FDA SCO/60H (M282 ONLY)	76000
6	4	PROPULSION TRANSFORMERS	MMR	ANSALDO	TNT-6HN-4x4`9K/N	SEE REFERENCE #6 (M282 ONLY)	6700
7	2	PROPULSION SCR DRIVE	EOS	ANSALDO	24 PULSE	SEE REFERENCE #6 (M282 ONLY)	4000
5A	1	ELECTRIC PROPULSION SYSTEM	MMR	TWMC	SEE REMARKS	SEE REFERENCE #6 (M283 ONLY)	76000
6A	4	PROPULSION TRANSFORMERS	MMR	TWMC	TNT-6HN-4x4`9K/N	SEE REFERENCE #6 (M283 ONLY)	6700
7A	2	PROPULSION SCR DRIVE	EOS	TWMC	24 PULSE	SEE REFERENCE #6 (M283 ONLY)	4000
8		NOT USED					
9	1	EMERGENCY DIESEL GENERATOR (170 KW)	EMERG GEN RM	CATERPILLAR	3306 DITA	DIESEL DRIVEN	2000
10	1	EMERGENCY DIESEL GENERATOR SILENCER (3306B)	EMERG GEN RM	HARCO	1460VCSA5SI	5", SPARK ARRESTING	90
11	2	DIESEL GENERATOR SET SILENCER (3512B)	STACK	HARCO	3088VCSA14	14", SPARK ARRESTING	403
12	2	DIESEL GENERATOR SET SILENCER (3508B)	STACK	HARCO	2882VCSA12	12", SPARK ARRESTING,	323
13	4	DIESEL GENERATOR SET TRIFLEX FUEL OIL FILTERS	MMR	RACOR	79-1000 MAV	FURNISHED WITH GENERATOR SET	14.5
14	1	EMERG DIESEL GENERATOR DUPLEX FUEL OIL FILTER	EMERG GEN RM	RACOR	75-500 MAX	FURNISHED WITH GENERATOR SET	11.4
15	1	FUEL OIL TRANSFER PUMP	AMR	ROPER	26 AE 54	1200 RPM, 13.63M^3/HR ,340 kPa	107
16	2	FUEL OIL PURIFIER	AMR	ALFA-LAVAL	PU 100		455
17	1	FUEL OIL MANFOLD	AMR	YOUNG/CUNNINGHAM		22 VALVE-2" DUPLEX (1-6VLV,1-5VLV)	707.6
18	1	LUBE OIL TRANSFER PUMP	MMR	ROPER	18 AM 06	0.56KW1200 RPM 1.6 M^3/HR@ TDH=35.9 M	71
19	1	LUBE OIL HAND PUMP	MMR	BLACKMER	PA-414B		8
20	1	WASTE OIL TRANSFER PUMP	MMR	ROPER	18 AM 06	0.56KW1200 RPM 1.6 M^3/HR@ TDH=35.9 M	71
21	1	WASTE OIL CIRCULATING / INCINERATOR SUPPLY PUMP	AMR	ROPER	18 AM 06	0.56KW1200 RPM 1.6 M^3/HR@ TDH=35.9 M	71
22	1	OILY WATER SEPARATOR	MMR	HELI-SEP	500	WET EIGHT	170
23	1	OILY WATER CONTENT MONITOR	MMR	HELI-SEP		ON OILY WATER SEPARATOR	
24	1	WASTE WATER DISCHARGE PUMP	DES			VENDOR FURNISHED / ON NSD	
25	1	MARINE SANITATION DEVICE	DES	SCIENCO/FAST	MX5S	40 MAN CAPACITY / OPERATING WIEGHT	8000
26	1	VACUUM SEWAGE SYSTEM	DES	EVAC		VENDOR FURNISHED / ON NSD	
27	4	DIESEL GENERATOR SET HEAT EXCHANGERS	MMR	ALFA LAVAL	M10-MFG	3508 AND 3512	372/377
28	2	MAIN SEAWATER COOLING PUMP	MMR	AURORA	SERIES 361A 6X6X11A	22.4KW@1750 RPM 250M^3/HR TDH=24.3M	274
29	4	MAIN SEAWATER SIMPLEX STRAINER	MMR	HAYWARD	#72	ON 250, SIMPLEX W/ 1/10" MESH SS BASKET	619
30	8	DIESEL GENERATOR SET EXPANSION TANK	MMR			YARD TO FABRICATE (30L)	
31	2	AUXILIARY SEAWATER COOLING PUMP	MMR	AURORA	SER. 361A 4X5X9B	7.5KW@1750 RPM 110M^3/HR@13.6M TDH	141
32	3	AIR CONDITIONING CHILLED WATER PUMP	MMR	AURORA	SER. 341A 2.5X3X12	22.3KW@1750 RPM 62.5M^3/HR@50.5M TDH	242
33	2	AIR CONDITIONING CHILLER PLANT	MMR	CARRIER	30HXC075	74.2 TONS,	2586
34	1	CHILLED STOREROOM REFRIGERATION UNIT	RMR	CARRIER	90YR28MSF3ND1K9R	1.8 TONS, 28 CFM @ 1750 RPM,	363
35	1	FREEZE STOREROOM REFRIGERATION UNIT	RMR	CARRIER	90YR28MSF3ND1K9R	1.8 TONS, 28 CFM @ 1750 RPM,	363
36	1	SCIENTIFIC FREEZER REFRIGERATION UNIT	FAN RM (M282) MMR (M283)	CARRIER	90YR16MSD3ND1K9R	0.98 TONS, 16 CFM @ 1750 RPM	340
37	1	CONTROLLED ENVIRONMENT ROOM REFRIGERATION UNIT	MMR	CARRIER	90YK1ZNBD3CA1Z9Z	M283 ONLY	
38	1	WASTE OIL MANIFOLD	MMR	-	-	YARD TO FABRICATE	
39	1	FIRE PUMP	BTR	AURORA	SER.341A 2.5x3x9	29.8KW@3500RPM80.4M^3/HR@67.4M HD	314
40	5	FIXED CARBON DIOXIDE SYSTEMS	VARIOUS	RC CARTER			
41	1	BILGE / BALLAST / FIRE PUMP	MMR	AURORA	SER.341A 2.5x3x9	2-SPEED,29.8KW1750 RPM, - 44 M^3/HR@ 16M TDH, 3500 RPM-80.4M^3/HR@67.4M HD	293
42	1	BILGE MANIFOLD	MMR	YOUNG/CUNNINGHAM	Y2458-1	10 VALVE-2" SINGLE (2-5VLV)	
43	1	BALLAST / BILGE / FIRE PUMP	AMR	AURORA	SER.341A 2.5x3x9	2-SPEED,29.8KW1750 RPM, - 44 M^3/HR@ 16M TDH, 3500 RPM-80.4M^3/HR@67.4M HD	293
44	1	BALLAST MANIFOLD	AMR	YOUNG/CUNNINGHAM	Y2424-1	10 VALVE-3" DUPLEX (1-10VLV)	308
45	1	SEAWATER WASHDOWN PUMP	MMR	AURORA	SERIES 361A 2.5X3X7B	15KW@3500RPM,80M^3/HR@42M TDH	110
46	1	EGG SAMPLING SYSTEM PUMP	MMR	PUMPEX	K80-T-VA3195	3.7KW@1750RPM,38.4M^3/HR@11M TDH	77
47	1	CONTINUUOUS UNDERWAY FISH EGG SAMPLER (CUFES)	WET LAB	OCEAN INSTRUMENTS	CUFES-101	CONCENTRATOR, 0.25 KW	68
48	2	SCIENTIFIC SEAWATER SYSTEM PUMP	BTR	WEBSTER	C8	3.7KW@1750RPM,5M^3/HR@20.4M TDH	
49	1	VACUUM PUMP	MMR	PREVAC	GPR-28	1.1KW@1750RPM,22.M^3/HR@21in Hg	
50	2	FRESH WATER DISTILLATION UNIT	MMR	ALFA-LAVAL	JWP-16-C40	7 METRIC TONS PER DAY CAPACITY	360
51	1	POTABLE WATER BLADDER TANK	DES	CLAYTON MARK	CM22050	412 L CAPACITY	86
52	2	POTABLE WATER PRESSURE PUMP	DES	AMPCO	KC2 1.25x1x5.5	1.5KW@3500 RPM, 6M^3/HR@36M TDH	69
53	2	WATER HEATER	DES	AO SMITH	DSE-120	454 L CAPACITY	190
54	2	HOT WATER RECIRC PUMPS	DES	AMPCO	KC2 1x.75x5	0.4KW@1750RPM, 3M^3/HR@6.7M TDH	35
55	1	ULTRAVIOLET PURIFIER	DES	AQUAFINE	RBE-4R	9M^3/HR @10 BAR	150
56	2	BATTERY CHARGER	EMERG GEN RM	LA MARCHE	A41-30-24V	SEE REFERENCE #6	30

ITEM NO.	QTY	DESCRIPTION	LOCATION	MANUFACTURER/ VENDOR	MODEL #	REMARKS	WGT (KG)	POWER
61	2	MAIN MACHINERY SPACE SUPPLY FAN	MMR SUPPLY TRUNK	VES	100JM	37.3 KW @ 6621 M^3/HR,	4^2	
62	1	AUXILIARY MACHINERY SPACE SUPPLY FAN	MMR SUPPLY TRUNK	VES	35JM	1.1 KW @ 1053 M^3/HR,	44	
63	2	DOMESTIC EQUIPMENT SPACE SUPPLY FAN	DES	VES	50JM	3.7 KW @ 8979 M^3/HR,	75	
64	1	EMERG. DIESEL GENERATOR ROOM SUPPLY FAN	EMERG GEN RM	VES	31JM	1.1 KW @ 824 M^3/HR,	40	
65	1	BOW THRUSTER ROOM SUPPLY FAN	BTR	VES	45JM	3.7 KW @ 6957 M^3/HR,	72	
66	1	TRASH ROOM SUPPLY FAN	TRASH ROOM	VES	31JM	1.1 KW @ 1911 M^3/HR,	40	
67	1	INCINERATOR	TRASH ROOM	TEAMTEC	TYPE OG200		3020	15 KW
68	1	INCINERATOR FLUE GAS EXHAUST FAN	STACK	TEAMTEC	DN 300 H2		326	
69	1	EMERGENCY SWITCHBOARD	EMERG GEN RM	GULF COAST PWR	N/A	SEE REFERENCE #9		N/A
70	1	INCINERATOR SLUDGE TANK	TRASH ROOM	TEAMTEC	435L	UNIT HAS AN ELECT HEATER	3^1	
71		NOT USED						
72	1	THRUST BEARING	MMR	MICHELL BEARING	QUOTE 70702		1600	N/A
73	1	PROPELLER	STERN	BIRD JOHNSON	5344	(HUB & 5 BLADES)	7714	N/A
74	1	RUDDER	STERN	BECKER	SC2550/430K.2			
75	1	BOW THRUSTER	BTR	TEES	40T3S	WEIGHT INCL MTR, ROTOR, &THRUSTER	12,530	
76	1	BOW THRUSTER TRANSFORMER	DES	TWMC	N/A	SEE REFERNCE #6	3400	600 VAC
77	1	MAIN CONTROL CONSOLE	EOS	RAACI	N/A	SEE REFERNCE #6		
78	1	MAIN SWITCHBOARD	EOS	GULF COAST PWR	N/A	SEE REFERNCE #9		
79	2	EMERGENCY TRANSFORMER	EMERG GEN RM	POWER MAGNITICS	N/A	SEE REFERNCE #6		
80	2	SHIPS SERVICE TRANSFORMERS	VARIUOS	POWER MAGNITICS	N/A	SEE REFERNCE #6		
81	7	SCIENTIFIC POWER SYSTEM TRANSFORMERS	VARIUOS	POWER MAGNITICS	N/A	SEE REFERNCE #6		
82	1	SHIPS WHISTLE	DECK HOUSE	AIR CHIME	KMJ 45C75-48	1HP,		
83	1	STORES HANDLING CRANE	02 LEVEL	APPLETON MARINE	BMD-501			
84	1	MONORAIL HOIST	MAIN DECK	CYCLONE	3287T2	(McMASTER CAR) 998 CAPACITY		
85	1	ANCHOR WINDLASS	BOW	TBD	ADW-36MM-40EB			
86	2	AFT DECK CRANES	STERN	APPLETON MARINE	EB70-60-25			
87	2	AFT DECK CRANE HPU	STERN	APPLETON MARINE	EB70-60-25			
88	1	GANTRY	STERN	AMCLYDE	CUSTOM			
89	1	NOT USED				NOT USED		
90	2	TRAWL WINCHES	TRW	RAPP-HYDEMA	TWS-7551-36.35	4000M OF 28.6MM 6x37 GEIPS WIRE ROPE,	33^00	
91	1	NET REEL	01 LEVEL	RAPP-HYDEMA	NDD-4000B/WDU-400'-20.6	SPLIT NET REEL,	4800	
92	1	NET SONDE WINCH	02 LEVEL	RAPP-HYDEMA	SOW-300-0.99	4000M OF 11.4MM TORQUE BALANCED DOUBLE ARMORED ELECTRO- MECHANICAL CABLE,	1200	
93	1	CUTHAUL WINCH	01 LEVEL STERN	PULLMASTER	M12-3-97-1	110M OF 13MM SPECTRA ROPE AND OUTHALL HOOK,		
94	1	GILSON WINCH	01 LEVEL	RAPP-HYDEMA	GWB-4000-16.94	250M OF 24MM SPECTRA ROPE	2500	
95	1	TRAWLING SYSTEM HPU	OWR	RAPP-HYDEMA	CUSTOM	6-128KW PMPS, 1-37KW PMP, 1-8.6KWPMP,	14500	
96	1	OCEANOGRAPHIC STORAGE WINCH	OWR	RAPP-HYDEMA	CUSTOM	3500M OF 17MM ELECTROMECHANICAL CABLE,	3650	
97	1	OCEANOGRAPHIC TRACTION WINCH	OWR	RAPP-HYDEMA	DTRW-120	DUAL 1220MM ROOT DIAMETER, 6 GRCOVE TRACTION WHEELS	4800	
98	2	HYDROGRAPHIC WINCH	01 LEVEL	RAPP-HYDEMA	CUSTOM	3500M OF 9.5MM ROCHESTER A216375 CABLE,	4100	
99	1	NOT USED				NOT USED		
100	1	SIDE SAMPLING STATION HANDLING GEAR	01 LEVEL	RAPP-HYDEMA	TBD			
101	1	SIDE SAMPLING STATION HANDLING GEAR HPU	01 LEVEL	RAPP-HYDEMA	TBD			
102	1	LABORATORY MONORAIL HOIST SYSTEM	VARIOUS LABS	YALE	KEL1/2 10RT60S1	454 CAPACITY		440V-3PH-60HZ
103		NOT USED						
104	5	SLIDING WATERTIGHT DOOR HPU	VARIOUS	IMS	280	SELF CONTAINED HPU		
105	2	STEERING SYSTEM HPU	TWR	ROLLS ROYCE	561SG01			
106	1	RESCUE BOAT	01 LEVEL	OCEAN SPRINT	SA3.5			N/A
107	1	RESCUE BOAT DAVIT	01 LEVEL	SCHAT HARDING INC.	OTECH5.6			
108	1	IMPRESSED CURRENT CATHODIC PROTECT SYS	EOS			SEE REFERNCE #6		
109	1	GRINDER	ENG WORKSHOP	JET	JBG-10A	STOCK #577103	50	
110	1	DRILL PRESS	ENG WORKSHOP	JET	JDP-20MF	STOCK #354170	130	
111	1	LATHE	ENG WORKSHOP	JET	GHB-1340	STOCK #321357	460	
112	1	ARBOR PRESS	ENG WORKSHOP	JET	BHP-12	STOCK #331412	62	
113	1	MILLING MACHINE	ENG WORKSHOP	JET	JMD-15	STOCK #350017	290	
114	2	SALT WATER EJECTOR FEED PUMP	MMR	ALFA LAVAL	CNL 40-40/200		183	6.4KW 440V-3PH-60HZ
115	1	PUMPOUT UNIT	MMR	CARRIER	90C02-1601			
116		NOT USED						
117	1	CENTER BOARD HPU	FAN RM	AMCLYDE				
118	1	AIR RECEIVER	CG LOCKER 02-48-0	McMASTER-CARR	9888K25	114 LITER CAPACITY		
119	2	CAPSTAN						
120	1	TRAWL SYSTEM HPU HEAT EXCHANGER	OWR	RAPP-HYDEMA	M10-MFG	WET WEIGHT	320	
121	1	BOOSTER HEATER	FAN RM (1-16-1)	A.O. SMITH	SU-45	DRY WEIGHT	80	46 KW
122	1	FISH MACERATOR	OWR	AUTIO COMPANY	802			22 KW
123	1	WASTE OIL HEATER	AMR	CHROMALOX	NWHMTOR-03-003P-E2			3KW

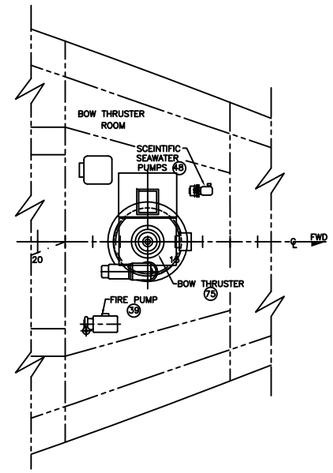
DWG NO: M282-085-FZ30 SH 25

HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3B213	D	M282	085	FZ30	026	00
ESTIMATE NO 00-104	SCALE 1:100		FILE			SHEET 26 OF	

PLOT: 1=100

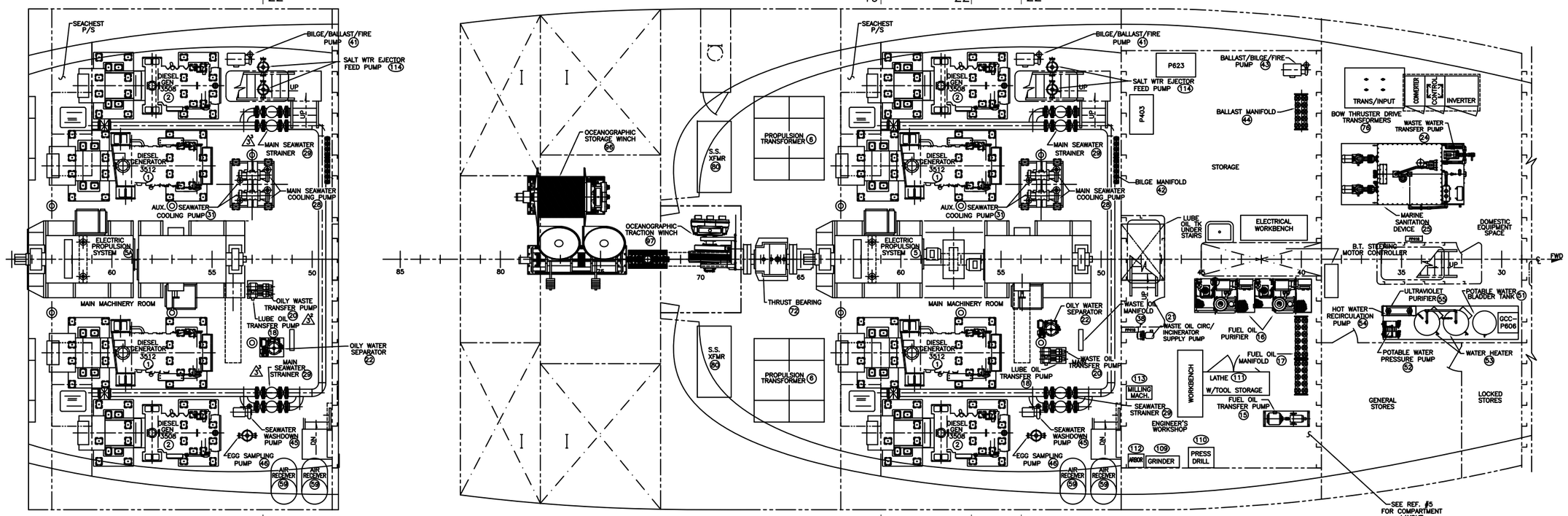


PLAN 12-D
2ND DECK



PLAN 10-D
TANKTOP

PLAN 15-A
(M283 ONLY)
TANKTOP

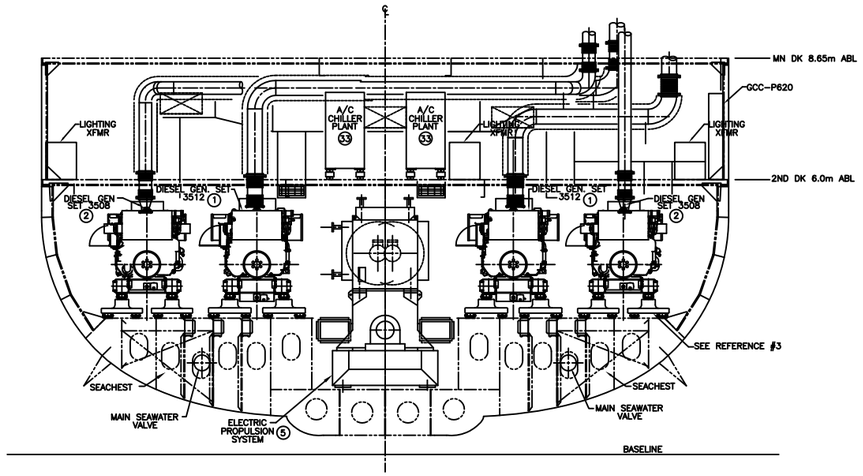


PLAN 12-A
(M282 ONLY)
TANKTOP

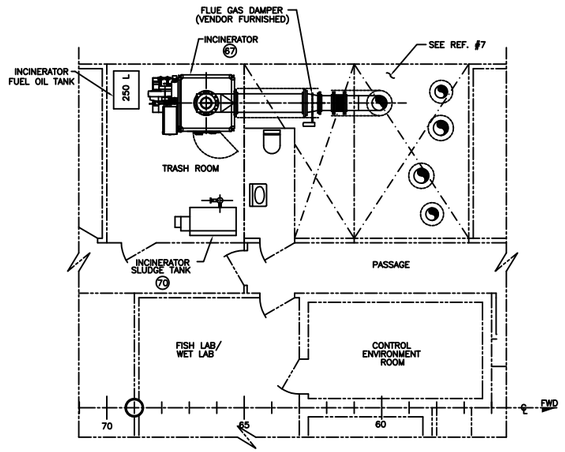
HULL NO	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	3BJB6	F	M282	085	FZ30	027	00
ESTIMATE NO 00-104	SCALE 1:50		FILE			SHEET 27 OF	

DWG NO. M282-085-FZ30 SH 27

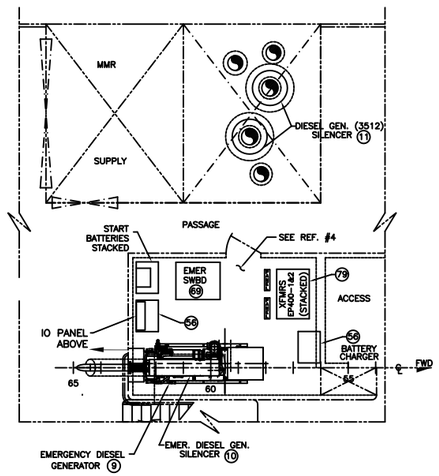
PLOT: 1:480



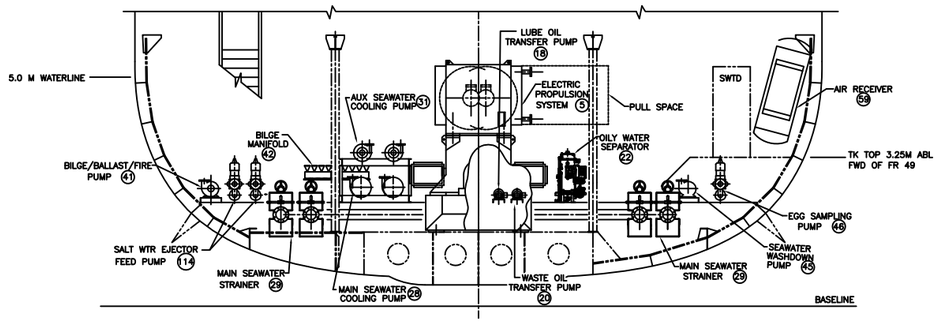
SECTION 22–D
FR 56 – LKG AFT



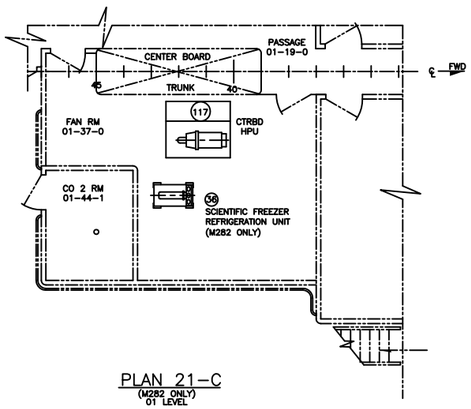
PLAN 19–D
MAIN DECK



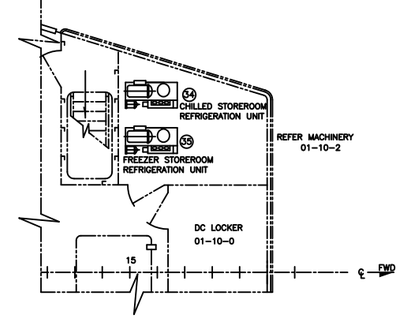
PLAN 18–D
01 LEVEL



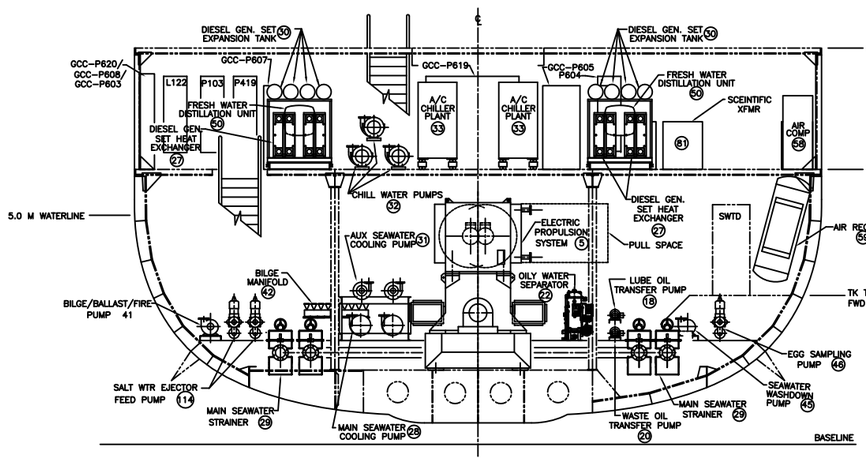
SECTION 22–C
(M283 ONLY)
FR 54 – LKG FWD



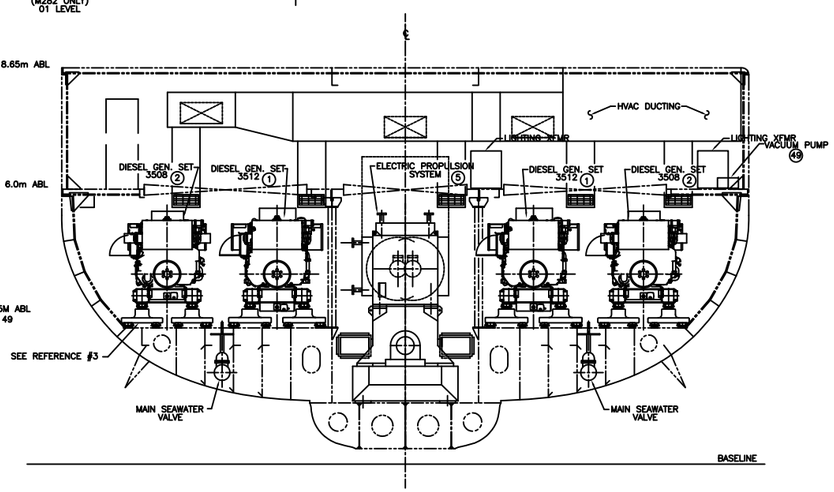
PLAN 21–C
(M282 ONLY)
01 LEVEL



PLAN 18–C
01 LEVEL



SECTION 22–A
(M282 ONLY)
FR 54 – LKG FWD



SECTION 19–A
FR 61 – LKG AFT

HULL NO.	CAGE CODE	SIZE	JOB NO.	ITEM	DELIVERABLE	SHEET	REV
APPLICABILITY	35J86	F	M282	085	FZ30	028	00
ESTIMATE NO. 00–104	SCALE 1:50		FILE			SHEET 28 OF 28	

DWG NO. M282–085–FZ30 SH 28

PLOT: 1:480